

Department of Planning and Environment

Code of Practice

for injured, sick and orphaned wombats



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Preface

The Code of Practice for Injured, Sick and Orphaned Wombats (the code) is intended for those authorised to rescue, rehabilitate and release wombats. The code has been developed to ensure the welfare needs of these mammals are met and the conservation benefits stemming from their rehabilitation and release are optimised. It also aims to ensure that risks to the health and safety of volunteers rescuing and caring for these animals are reduced and easily managed.

Compliance with the code does not remove the need to abide by the requirements of the:

- Prevention of Cruelty to Animals Act 1979
- Poisons and Therapeutic Goods Act 1966
- Veterinary Practice Act 2003
- Animal Research Act 1985
- Local Government Act 1993
- Firearms Act 1996

or any other relevant laws and regulations.

Compliance with the standards in the code is a condition of a biodiversity conservation licence (BCL) to rehabilitate and release sick, injured and orphaned protected animals issued under the NSW *Biodiversity Conservation Act 2016* (BC Act). A person who contravenes a condition of a BCL is guilty of an offence under section 2.14 (4) of this Act.

The code is neither a complete manual on animal husbandry, nor a static document, and must be implemented by a person trained in accordance with the Wombat Rehabilitation Training Standards for the Volunteer Wildlife Rehabilitation Sector. It will be periodically reviewed to incorporate new knowledge of animal physiology and behaviour, technological advances, developments in animal welfare standards, and changing community attitudes and expectations about the humane treatment of wombats. The Department of Planning and Environment (the department) will consult with licence holders regarding potential changes to the code and give written notice when the code is superseded.

1. Introduction

This code sets standards for the care and housing of a wombat that is incapable of fending for itself in its natural habitat. It refers to the three species of wombats that have been recorded in New South Wales (see Appendix 1).

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 southern hairy-nosed wombat <u>(Lasiorhinus latifrons)</u> was thought to be extinct in New South Wales until recently. Present only in very small numbers in south-west NSW, it is listed as endangered in New South Wales.

While the northern hairy-nosed wombat (*Lasiorhinus krefftii*) is extinct in New South Wales, it is listed as critically endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

This code comprises both enforceable provisions and guidelines. Enforceable provisions are identified by the word 'Standards' and they must be followed.

1.1 Principles

The development of the code has been guided by four key principles which apply to all aspects of wombat rescue, rehabilitation and release:

Prioritise the welfare of wombats

The main objective of wildlife rehabilitation is to relieve suffering in sick or injured wildlife. The rehabilitation and release of wombats to the wild is the primary objective. It must not be pursued to preserve life of the animal at all costs or achieve broader conservation outcomes where the animal is subject to unreasonable and unjustifiable suffering.

Avoid harm to wild wombat populations and other wildlife communities

In wildlife rehabilitation, there is a risk of adverse ecological outcomes. The inappropriate release of animals can have significant detrimental effects on the local ecosystem and wildlife communities. At all stages of wildlife rehabilitation, the potential adverse ecological outcomes must be considered, and conservation benefits for wild wombat populations maximised.

Minimise the risks to human health and safety

There are many risks in all aspects of rehabilitation, including both personal injury and disease, requiring consideration to ensure preventative measures are in place. All personnel involved in rescue, rehabilitation and release of wombats must understand practical health and safety measures such as undertaking a risk assessment, using personal protective equipment, and even delaying action to ensure safety measures are in place to protect their health and safety.

Optimise capacity to care

Wildlife rehabilitators must ensure they can provide for the essential needs of wombats undergoing rehabilitation, and the resources to adequately prepare the wombat for release back into the wild. When the wildlife rehabilitator's capacity to care is exceeded,

unacceptable standards of care or welfare may result. Wildlife rehabilitators must be mindful of their capacity to care, particularly when there is an influx of wildlife requiring care due to major incidents, significant weather events or disease outbreak.

When the capacity to care is exceeded, there are three acceptable management options:

- refer the wombat to another licensed wildlife rehabilitator with a current capacity to care for the mammal
- increase the capacity to care by increasing or pooling resources
- lower the euthanasia threshold in combination with early-stage triage of newly rescued animals and proper veterinary assessment and prognosis of wombats in care.

Lowering the standards of care, such that they are not consistent with this code, is not an acceptable response to exceeding the capacity to care. In circumstances that involve major catastrophic events and where capacity to care is exceeded, lowering the threshold for euthanasia is a more appropriate response than not rescuing animals in distress.

1.2 Interpretations

Objectives

'Objectives' are the intended outcomes for each section of this code.

Standards

'Standards' describe the mandatory specific actions needed to achieve acceptable animal welfare levels. These are the minimum standards that must be met. They are identified in the text by the heading 'Standards' and use the word 'must'.

Guidelines

'Guidelines' describe the agreed best practice following consideration of scientific information and accumulated experience. They also reflect society's values and expectations regarding the care of animals. A guideline is usually a higher standard 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 text by the heading 'Guidelines' and use the word 'should'.

Notes

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

1.3 Definitions

In this code:

Barrier nursing means husbandry practices used to provide complete isolation of a patient to minimise the risk of cross-contamination between patients and from patients to the wildlife rehabilitator responsible for their care. It includes the physical separation of patients, avoiding sharing tools and furniture equipment between animals, wearing personal

protective equipment (e.g. masks, eye protection, gloves, gowns, aprons, overshoes), and using infection control procedures (e.g. equipment sterilisation and regular use of disinfectant).

Experienced wombat rehabilitator means someone who has extensive knowledge of current rehabilitation techniques gained through training courses and many years of successfully rehabilitating and releasing wombats.

Husbandry plan means developing a plan for the rehabilitation and care of a wombat that includes monitoring, feeding, treatment and toileting.

Immediate risk of injury means the likelihood of an animal becoming injured and requiring care is high if immediate intervention is not undertaken, based on a reasonable situation assessment.

Mange (sarcoptic mange) is a skin infection in mammals caused by the parasitic mite *Sarcoptes scabiei*. While it affects a number of native Australian species, it has the most significant impact on wombat populations. It is preventable and treatable in captive wombats.

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 the NSW *National Parks and Wildlife Act 1974*.

Protected animal means any amphibian, reptile, bird or mammal (except dingos) 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).

Recovery, when referring to an individual, means a return to a functional condition after an injury or illness. This includes the natural ability of an animal to feed, interact, move, and evade risks and hazards in a wild situation.

Species coordinator is an experienced wildlife rehabilitator nominated by a group to liaise and advise volunteers on the rehabilitation of particular species, e.g. possums and gliders, koalas, macropods. Species coordinators should be people who are skilled in applying the code and have a role in monitoring volunteers, distributing rescued animals to volunteers and liaising with local veterinary hospitals.

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

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

Wildlife rehabilitation provider means an incorporated wildlife rehabilitation group, individually licensed wildlife rehabilitator, or a facility that is licensed by the department under the BC Act to rehabilitate and release protected animals.

Wombats are nocturnal, burrowing, herbivorous marsupials that belong to the family Vombatidae which has three extant species in the genus Vombatus and genus Lasiorhinus. While originally all three species were found in New South Wales, the northern hairy-nosed wombat is now extinct in New South Wales (Appendix 1).

Zoonoses are diseases that can be transmitted from animals to humans.

2. Case assessment

2.1 Assessing wombats

Objective

To assess a wombat to determine the type of intervention required. The primary objective of rehabilitation is the successful reintegration of the wombat back into the wild population, and all decisions are in pursuit of this goal. This will mean that some individual animals may benefit from rehabilitation whereas others will need to be euthanased.

Standards

- 2.1.1 The decision tree in Figure 1 must be followed when determining how to respond to a wombat encounter.
- 2.1.2 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, e.g. via telephone.

Notes

- An animal creating a nuisance for the public generally refers to an animal that has
 entered a person's house or represents a human health risk. It does not include an
 animal defending its territory or exhibiting other normal behaviour.
- The department has policies for managing negative interactions with protected animals, including wombats: How do I remove a wombat? The policies advocate non-lethal measures for managing nuisance animals.

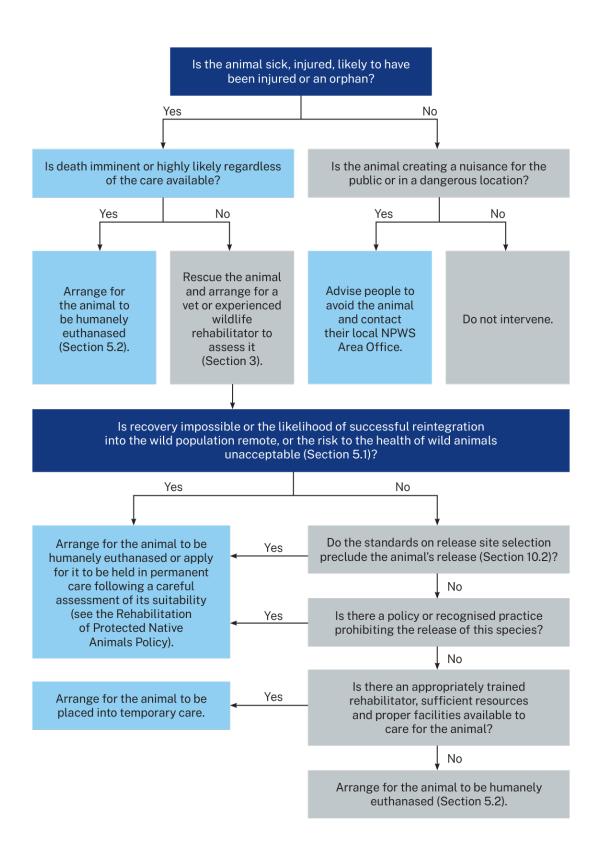


Figure 1 Decision tree for the course of action when a wombat is encountered

3. Rescue

3.1 Rescuing wombats

Objective

To conduct a wombat rescue to minimise further stress and injury to the animal.

Standards

- 3.1.1 Before a rescue attempt, the rescuer must assess the risks to the wombat from environmental hazards and capture.
- 3.1.2 Before a rescue attempt, the rescuer must assess the risks to themselves and members of the public.
- 3.1.3 Rescuers must employ the correct rescue equipment for the location, size, condition and species of the wombat and be trained in its use (see Section 11: Training).
- 3.1.4 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.
- 3.1.5 If the wombat is an injured female with signs of having a pouch young (e.g. elongated teat, stretched pouch), the surrounding area must be searched for the young and monitored regularly (e.g. daily for at least several days) if the joey is not immediately found.
- 3.1.6 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 metres). Such relocations need to be planned carefully and undertaken by experienced wombat rehabilitators.
- 3.1.7 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.
- 3.1.8 Wombats in a trap must be moved to a suitable transport container as soon as practically possible.
- 3.1.9 Rescue of joeys (pouch young) if attending a deceased female wombat:
 - look for a joey in the pouch
 - 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 Standard 4.1.5) and secured during transport to an experienced wombat rehabilitator
 - larger pouch young will require a small, safe transport container.

3.1.10 Rescuers must use suitable work, health and safety techniques to minimise the risk of injury to the rescuer (e.g. wearing personal protective equipment such gloves and long sleeves).

Guidelines

- 3.1.11 When the mother has died, a healthy young at foot wombat joey should be monitored and assessed by an experienced wombat rehabilitator to see if it will be at risk from predators and is able to remain with the mob, or needs to be taken into care.
- 3.1.12 The rescue of a subadult or adult wombat should not be attempted unless at least two trained personnel are involved. During rescue, rescuers should take steps to protect the wombat from additional stressors, such as onlookers, loud noises, other animals, and extremes of temperature.
- 3.1.13 Capture should be swift and effective with the goal of promptly containing the animal by a means that limits exposure to additional stressors such as onlookers, loud noises, other animals and extremes of temperature.
- 3.1.14 If a wombat is constantly seen out during daylight hours, before rescue, an experienced wombat rehabilitator should be contacted for a mange assessment to determine a plan of management. This assessment may be possible by video or email.

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:
 - o a reliable heat source
 - o a thermometer
 - o a range of pouches
 - a securable transport carrier
 - disposable gloves
 - surgical scissors
 - blankets and towels
 - o hand sanitiser.
- Wombat-specific traps should be used.

4. Transport

4.1 Moving wombats

Objective

To minimise further 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, between rehabilitation facilities, and to the release site.

Standards

- 4.1.1 Transport methods and container sizes must be appropriate for the wombat's species, size, strength, and temperament. 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 subadult requires a well-ventilated, padded transport container.
- 4.1.2 The transport container must be designed, set up and secured to prevent injuries to the wombat.
- 4.1.3 Containers must be designed to prevent the wombat from escaping.
- 4.1.4 Transport containers must be constructed from material that can be easily cleaned and disinfected.
- 4.1.5 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 subadults 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
 - furred young should be kept at around 28°C, and furless young kept between 28°C and 30°C.
- 4.1.6 A wombat in a transport bag or container must be positioned so its breathing is not restricted, and its pain or discomfort is minimised.
- 4.1.7 The temperature and condition of the wombat must be regularly monitored during transport.
- 4.1.8 Transport containers must be ventilated so air can circulate around the wombat.
- 4.1.9 Transport containers must minimise light, noise (e.g. radio), and vibrations and prevent exposure to young children, pets and cigarette smoke.
- 4.1.10 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, on the rescuer's lap, or on the body and under the clothing of a rescuer.

4.1.11 The use of medication to facilitate wombat transport must be assessed and approved by a veterinarian.

Guidelines

4.1.12 Wombat transport should be the sole purpose of the trip and undertaken in the shortest possible time.

5. Euthanasia

5.1 When to euthanase

Objective

To end a wombat's life in situations where death is imminent, full recovery is impossible, the likelihood of successful reintegration into the wild population is remote, or the wombat poses an unacceptable disease risk to other animals in the wild once released.

Standards

- 5.1.1 A wombat must be euthanased without exception when:
 - death is imminent or highly likely regardless of the treatment provided
 - it is suffering from chronic, unrelievable pain or distress
 - it is carrying an incurable disease that may pose a health risk to other wild animals
 - its ability to consume food unaided is permanently impaired due to an injured jaw or missing or worn teeth
 - it has significant burns to the face, genitals, digits, nail beds, tail or leather padding on its feet.
- 5.1.2 A wombat must be euthanased (unless the department has granted permission to hold it in permanent care) when:
 - there is no suitable release location
 - its ability to reproduce is lost due to an injury, disease or procedure
 - its ability to locomote is permanently impaired due to a missing or injured limb
 - 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)
 - its advanced age renders it unable to survive in its natural habitat.

In certain exceptional circumstances, the department may grant permission to hold such animals in permanent care or arrange placement with an authorised animal exhibitor licensed by the NSW Department of Primary Industries (DPI). See the Rehabilitation of Protected Native Animals Policy for details.

Guidelines

- 5.1.3 The decision to euthanase should not be based on an animal's weight at rescue.
- 5.1.4 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.

5.2 How to euthanase

Objective

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

Standards

- 5.2.1 A euthanasia method must be used which produces a rapid loss of consciousness immediately followed by death.
- 5.2.2 Death must be confirmed immediately following the euthanasia procedure and before disposal of the carcass. The absence a heartbeat and the loss of corneal reflexes indicate death has occurred.
- 5.2.3 Acceptable methods for euthanasia of wombats include:
 - anaesthesia followed by an intravenous (preferred) or intracardiac injection of sodium pentobarbital; this must be performed by a veterinarian
 - gunshot to the head or heart.
- 5.2.4 The following euthanasia methods must not be used on wombats:
 - suffocation via drowning, strangulation or chest compression
 - freezing or burning
 - carbon dioxide or carbon monoxide in any form
 - poisoning with household products
 - air embolism
 - stunning followed by decapitation and destruction of the brain
 - stunning followed by cervical dislocation (wombats less than 0.5 kilograms)
 - exsanguination or decapitation without prior stunning
 - electrocution or microwave irradiation
 - chloroform or strychnine
 - neuromuscular blocking agents.

Guidelines

- 5.2.5 Wombat rehabilitators should arrange for a veterinarian to perform euthanasia. An intravenous barbiturate overdose should be used, with sedation before euthanasia.
- 5.2.6 Shooting should be undertaken only by a licensed, skilled and experienced wildlife rehabilitation provider or an appropriate agency, such as the NSW National Parks and Wildlife Service (NPWS), the Royal Society for the Prevention of Cruelty to Animals (RSPCA) or NSW Police.
- 5.2.7 A wombat that requires euthanasia should not be exposed to additional stressors such as large numbers of onlookers, people touching it, loud noises or extremes of temperature.

Notes

For further information on appropriate euthanasia methods refer to:

- Australian Code for the Care and Use of Animals for Scientific Purposes (8th edition, NHMRC 2013).
- The *Firearms Act 1996* specifies animal welfare as a genuine reason for having a firearms licence.
- The *Veterinary Practice Act 2003* places restrictions on the types of procedures non-veterinarians can perform on animals.
- The *Poisons and Therapeutic Goods Act 1966* places restrictions on the types of poisons people can possess.

 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.

5.3 Disposal of carcasses and animal waste

Objective

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

Standards

- 5.3.1 Carcasses and organic waste must either be incinerated (under licence) or taken to a licensed waste facility or, if on private land, buried at a depth that will prevent scavengers from reaching them.
- 5.3.2 Wombats that have died from disease or chemical means (e.g. barbiturate overdose) must not be fed to other animals.

Guidelines

- 5.3.3 If the cause of death is uncertain, a deceased wombat should, whenever possible, undergo a necropsy by a veterinarian.
- 5.3.4 Wildlife rehabilitators should make every effort to reduce the risk of contracting zoonoses such as Q fever, mange, thrush and fungal infections by:
 - implementing barrier nursing techniques (e.g. wearing personal protective equipment such as a mask, gloves and gown)
 - having vaccinations for tetanus and Q fever.

Note

Further information on carcass disposal can be found in the Department of Primary Industries fact sheet: Animal carcass disposal, including particular information on the proper construction and location for a burial site to protect the water table.

6. Care procedures

6.1 Assessment

Objective

To identify the severity of wounds, injuries or disease to determine the best course of action for a wombat undergoing rehabilitation.

Standards

- 6.1.1 On admission a wombat must 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 or parasites
 - discharge from the eyes, nostrils, mouth or cloaca
 - odd smells
 - jaw alignment or broken teeth
 - skin conditions or hair loss.
- 6.1.2 Once identified, disease and injury problems need to be prioritised for management according to severity (triage). This may require veterinary input. Health management of wombats in care must always strive for optimal animal welfare. Recognition and management of pain is important.

6.2 Monitoring

Objective

To determine the health of wombats undergoing rehabilitation so concerns can be promptly identified and managed. The type and frequency of monitoring will vary with the age or stage of development, type of injury or illness, and required treatment.

Standards

- 6.2.1 Monitoring a wombat must include:
 - 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 faeces and urine
 - looking for indications of activity
 - assessing the trend in weight, e.g. gain or loss.

- 6.2.2 Dependent pouch young wombats 0–600 grams (g) must be monitored every 2–3 hours and weighed once per day (see Appendix 2 for age comparisons).
- 6.2.3 Dependent pouch young wombats 600–1000 g must be monitored every 4 hours and weighed three times per week.
- 6.2.4 Dependent pouch young wombats 1–2 kilograms (kg) must be monitored after every feed and weighed twice per week.
- 6.2.5 Dependent pouch young wombats 2–5 kg must be monitored after every feed and weighed once per week.
- 6.2.6 Dependent pouch young wombats 5–10 kg must be monitored daily and weighed once per week.
- 6.2.7 Subadult wombats 10–15 kg must be monitored daily and weighed twice per month.
- 6.2.8 Subadult wombats 15–20 kg must be monitored daily and weighed when required.
- 6.2.9 Wombats being prepared for release must be monitored every few days to determine if they are physically and behaviourally ready for release (see Section 9: Suitability for release).
- 6.2.10 Wildlife rehabilitators must regularly monitor the temperature of any artificial heat source (e.g. blankets, hot water bottles and electric heat mats) within artificial pouches and enclosures containing thermal support, to ensure appropriate temperatures are maintained.
- 6.2.11 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.
- 6.2.12 Wildlife rehabilitators must regularly monitor the temperature of any artificial heat source (e.g. blankets, hot water bottles and electric heat mats) within artificial pouches and enclosures containing thermal support, to ensure appropriate temperatures are maintained.
- 6.2.13 Antibiotics must be given by or under the guidance of a veterinarian and with extreme caution due to the spread of antibiotic resistance and harm to wild populations.

Note

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

6.3 Controlling disease transmission between animals

Objective

To prevent the spread of diseases among animals undergoing rehabilitation. Stressed animals are more susceptible to contracting and expressing infectious diseases.

Standards

- 6.3.1 A newly arrived wombat must be isolated in a separate area until its disease status can be determined by a veterinarian or experienced wildlife rehabilitator.
- 6.3.2 A wombat suspected or known to be carrying an infectious disease (e.g. mange) must be kept under strict quarantine conditions throughout their rehabilitation, and wildlife rehabilitators must wear personal protective equipment (e.g. gown, mask and gloves) to prevent contracting zoonoses.
 - signs of disease may include coughing, sneezing, abnormal breath sounds, discharge from the eyes or nose, hair loss, thickened crusted skin and diarrhoea.
- 6.3.3 Dedicated cleaning equipment must be used for enclosures housing wombats with a suspected or confirmed infectious disease.
- 6.3.4 All enclosures, transport containers, enclosure furniture, food and water containers must be thoroughly cleaned and disinfected after each occupant.
- 6.3.5 Wombats undergoing rehabilitation must be prevented from coming into contact with domestic pets.
- 6.3.6 Wildlife rehabilitators must wash their hands thoroughly with soap or disinfectant before and after handling each animal in care.
- 6.3.7 If a wombat is suspected of carrying a new notifiable disease (e.g. Q fever), or an unusual disease or a mortality event is suspected, the wildlife rehabilitator must immediately contact their species coordinator to notify the DPI Emergency Animal Disease Hotline (24 hours) on 1800 675 888 for immediate assessment of emerging health threats.

Guidelines

- 6.3.8 When handling multiple animals, wildlife rehabilitators should start with the healthiest and finish with the sickest, to reduce the risks of disease transmission.
- 6.3.9 Different species undergoing rehabilitation should be kept in separate enclosures at all times.
- 6.3.10 Should it be necessary to house different species together, care should be taken to minimise aggressive interactions.
- 6.3.11 Wildlife rehabilitators should make every effort to reduce the risk of contracting zoonoses such as salmonella, mange, thrush, mites and fungal infections by:
 - implementing barrier nursing techniques (e.g. wearing personal protective equipment such as a mask, gloves and gown)
 - having vaccinations for tetanus and Q fever.
- 6.3.12 Pest control is recommended for all rehabilitation facilities.

Notes

- If unwell, wildlife rehabilitators should remind the doctor they are caring for a sick animal and there is a possibility of having contracted a disease.
- Pregnant women should not handle or care for sick animals.

7. Husbandry

7.1 Food and water

Objective

To ensure a wombat has a feeding and watering regime that encourages rapid recovery, supports growth in juveniles, and assists with developing and maintaining foraging behaviour necessary for survival in the wild.

Standards

- 7.1.1 Clean, fresh drinking water must be available at all times and changed daily, except in the case of dependent pouch young.
- 7.1.2 Water containers must be designed and positioned to avoid spillage and contamination and must be appropriate for a wombat's size, age and mobility.
- 7.1.3 Fresh native grass, roots and soil must be available for the wombat to eat at all times and replaced daily.
- 7.1.4 Stored food must not be accessible to pets, pests and wild animals and must be protected from contamination and nutritional and moisture loss.
- 7.1.5 A hand-reared wombat must be fed a milk formula that is appropriate for its stage of development.
- 7.1.6 Maintenance fluid requirements vary depending on many 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.
- 7.1.7 Extra hydration, when required by dependent pouch young, must be offered separately between formula feeds and not by diluting the milk feed formula. The hydration needs will vary depending on formula type, feeding frequency, health status and stage of development.
- 7.1.8 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.
- 7.1.9 Food that is available in the wild must form the basis of the animal's diet.

Guidelines

- 7.1.10 Nutritional and fluid support is vital for adult wombats in the intensive and intermediate care stages if their appetite is depressed or they are dehydrated. A variety of blended products and commercial formulae suitable for herbivores can be used for this purpose.
- 7.1.11 Contaminant-free dirt, bark and roots should be offered to all wombats in the prerelease stage.
- 7.1.12 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.
- 7.1.13 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 to moderate protein (less than 14%) and low vitamin D levels).

- 7.1.14 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.
- 7.1.15 Food and water guidelines for dependent wombats (see Appendix 2 for comparative ages):
 - wombats 100–200 g should be fed every three hours
 - wombats 200–1000 g should be fed every four hours
 - wombats 1–1.5 kg should be fed every four to five hours
 - wombats 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)
 - wombats 3–6 kg should be fed three times a day and have access to fresh water, native roots, dirt and grasses
 - wombats greater than 6 kg should be fed twice a day and have access to fresh water, native roots, dirt and grasses.

7.2 Hygiene

Objective

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

Standards

- 7.2.1 Faeces and uneaten food must be removed daily and disposed of to ensure other animals cannot consume them (e.g. in closed garbage or compost bins).
- 7.2.2 Food and water containers must be cleaned daily. Cleaning involves the use of water, a detergent and the physical removal of all residues.
- 7.2.3 Bottles, teats and syringes used for feeding pinkies must be sterilised before every feed.
- 7.2.4 Water used to mix milk formula for (pinkies and velvet) joeys must be cool, pre-boiled water. At sea level, water needs to be boiled for one minute to sterilise it.
- 7.2.5 Enclosure furniture, bedding, weighing bags and pouches must be cleaned when soiled.
- 7.2.6 A wombat must be cleaned when soiled with faeces, urine or uneaten food.
- 7.2.7 Wildlife rehabilitators must minimise the disturbance to wombats when cleaning.
- 7.2.8 Wildlife rehabilitators must wash their hands_and clean all food preparation surfaces and equipment before preparing wombat food.
- 7.2.9 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.

Guidelines

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

7.3 General care

Objective

To ensure wombats have a care regime that encourages rapid recovery, supports growth in juveniles, and assists with behaviours necessary for survival in the wild.

Standards

7.3.1 Rescued wombats suffering mange must be treated in consultation with a wildlife rehabilitator experienced in mange treatment and a veterinarian.

Guidelines

- 7.3.2 The buddying of wombats based on weight and stage of development is recommended for the development of natural behaviours and to minimise stress. Wildlife rehabilitation providers should liaise with other providers to facilitate buddying where possible.
- 7.3.4 All husbandries should be covered in wombat-specific training (see Section 11: Training).
- 7.3.5 Each wombat should have a husbandry plan.
- 7.3.6 Wombats are very prone to imprinting and humanisation to people. All care should be taken, particularly after weaning, to minimise social interactions with humans, and natural behaviours should be allowed to develop.
- 7.3.7 Older wombats (over 15 kg) with mange are best treated in situ.

8. Housing

8.1 General requirements

Objective

To ensure a wombat undergoing rehabilitation is housed in enclosures that keep it safe, secure and free from additional stress.

Standards

- 8.1.1 Enclosures must be escape-proof.
- 8.1.2 Housing must be made safe for wombats to live in by excluding hazards that might harm them.
- 8.1.3 Housing must be designed and positioned to protect the wombat from physical contact with wild animals and pests.
- 8.1.4 Housing must be designed and positioned so the wombat cannot see domestic pets.
- 8.1.5 Housing must be designed so rehabilitators can readily access the wombat.
- 8.1.6 Housing must be positioned so the wombat is not exposed to strong vibrations, noxious smells (e.g. wood smoke) or loud noises (e.g. radios and televisions).
- 8.1.7 Housing must be constructed from non-toxic materials that can be easily cleaned and disinfected.
- 8.1.8 If multiple wombats are kept within a single enclosure, there must be sufficient space for individuals to avoid undue conflict or harm from each other.

Note

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

8.2 Intensive care housing

Objective

To facilitate frequent monitoring, treatment, feeding and rehydration during the period immediately after coming into care and until the animal is stabilised.

Standards

- 8.2.1 Intensive care housing must provide sufficient space for the wombat to maintain a normal posture and to stretch its body and limbs.
- 8.2.2 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.
- 8.2.3 The temperature in intensive care housing must be regularly monitored using a thermometer.

- 8.2.4 Electrical heat sources must be regulated by a thermostat.
- 8.2.5 Wombat care housing must be dim (no bright lights).
- 8.2.6 Intensive care housing must be designed and positioned so that visual and auditory stimuli are reduced.
- 8.2.7 Intensive care housing must be adequately ventilated without allowing excessive temperature extremes.
- 8.2.8 Substrate used in intensive care housing must be replaced daily.
- 8.2.9 Enclosures for pouch young are as follows (see Appendix 2 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.

8.3 Intermediate care housing

Objective

To provide a mobile wombat with enough space to allow some physical activity while enabling it to be readily caught for monitoring or treatment.

Standards

- 8.3.1 Intermediate care housing must provide sufficient space for the wombat to move about freely while being conveniently sized for capture.
- 8.3.2 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.
- 8.3.3 Intermediate care enclosures for wombats of 5–10 kilograms 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.

8.4 Pre-release housing

Objective

To give the wombat the opportunity to regain its physical condition, acclimatise to current weather conditions and practice natural behaviour. At this stage of rehabilitation, interactions between the wombat and humans will be greatly reduced.

Standards

- 8.4.1 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.
- 8.4.2 Pre-release housing must provide areas where the wombat can gain exposure to prevailing weather conditions and areas where it can shelter.
- 8.4.3 Pre-release housing must contain habitat elements that enable the wombat to perform a range of natural behaviours. For example, wombats require 'furniture' such as bark, branches, rocks, stumps and dirt that mimic a natural environment.
- 8.4.4 Pre-release housing must be designed and positioned so exposure to humans is kept to the minimum required for monitoring, feeding and cleaning.
- 8.4.5 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.
- 8.4.6 All fences should be constructed to be wombat-proof:
 - fences must be dug into the ground a minimum of 900 mm, or a wire skirt of at least 1 m placed around the base so wombats cannot dig under the fence
 - perimeter fencing must be made from a solid material, e.g. prefabricated steel panels.
- 8.4.7 When the flooring is concrete-based, it must be topped with soil at least 1.5 m deep so the wombats can practice digging (a burrow temperature of 20°C can only be achieved by digging to this depth).
- 8.4.8 All wombats at this stage of rehabilitation must have access to a burrow area.

Guidelines

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

9. Suitability for release

9.1 Preparations for release

Objective

To ensure the wombat is physically fit and has the appropriate survival skills before its release. Preparations for release will start at the time of rescue and continue throughout the rehabilitation process. Many species will gradually lose their survival skills in captivity, so it is vital their time in care is kept to a minimum.

Standards

- 9.1.1 A wombat must not be released until it is physically ready. This status has been achieved when:
 - it has recovered from any injury or disease (e.g. digs and eats normally and has normal mobility)
 - if hand-raised, it 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
 - it has acclimatised to prevailing climatic conditions.
- 9.1.2 A wombat must not be released until it is behaviourally ready. This status has been achieved when:
 - it can recognise and enter burrows unaided
 - it is not attracted to humans or to sights, sounds or smells that are specific to captivity (i.e. not humanised or imprinted)
 - it can navigate effectively though its natural environment.
- 9.1.3 A wombat's readiness for release must be confirmed either by a veterinarian or experienced wombat rehabilitator.
- 9.1.4 In cases where an animal is determined to be non-releasable, the wildlife rehabilitation provider must:
 - consider euthanasia (see Section 5: Euthanasia)
 - if euthanasia is not considered appropriate, contact the Wildlife Team (wildlife.licensing@environment.nsw.gov.au) and apply for permanent care
 - notify the Wildlife Team (<u>wildlife.licensing@environment.nsw.gov.au</u>) to arrange placement with an authorised animal exhibitor licensed by DPI.
- 9.1.5 A wombat with any signs of infectious disease (such as mange) should not be released as it poses a risk to wild wombats.

10. Release considerations

10.1 Timing of release

Objective

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.

Standards

- 10.1.1 Once a wombat is deemed ready for release, it must be released as soon as conditions are suitable (see below for what suitable conditions are).
- 10.1.2 Wombats must be released when weather conditions encourage high activity levels. Release during extremes of temperature and storms must be avoided.
- 10.1.3 For sexually immature wombats, release should occur before sexual maturity, and when they would naturally disperse.

10.2 Release site selection

Objective

To ensure the wild population and natural environment are not negatively impacted by the release of the wombat, and the released wombat has the highest likelihood of survival.

Standards

- 10.2.1 If the exact location where the wombat was found is known, and it has been assessed as a suitable environment for release, it must be released there. A suitable environment for release is one that:
 - contains appropriate burrows and adequate food and water resources
 - has an existing wombat population
 - does not place the wombat at high risk of injury (e.g. near roads or on properties with a known population of free-ranging dogs).
- 10.2.2 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 near as possible to this location but no further than 50 kilometres away.
- 10.2.3 If only the general location where the wombat was found is known, and it contains or adjoins a suitable environment for release, the wombat must be released there without 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 travel, it must not be released.
- 10.2.4 If there is no information about where the wombat was found, it must not be released.
- 10.2.5 A wombat can only be released in a park if:
 - it was originally encountered in that location

- written consent for the release has been obtained from the relevant NPWS
 Area Manager (issued under s.11 of the National Parks and Wildlife Regulation 2019)
- the release complies with the relevant Department of Planning and Environment policies on translocation.

These conditions also apply to the release of a wombat in a location where it might reasonably be expected to immediately enter a park (e.g. on a road or property adjoining a park).

- 10.2.6 In cases where there is no suitable release site, the wildlife rehabilitation provider must either:
 - consider euthanasia (see Section 5: Euthanasia)
 - if euthanasia is not considered appropriate, contact the department and apply for permanent care
 - notify NPWS to arrange placement with an authorised animal exhibitor licensed by DPI.

Guidelines

10.2.7 A wombat should be released in an area that is connected to other suitable habitat.

Note

Wildlife rehabilitators who propose to release a wombat outside these standards and guidelines require additional approval. Contact the Wildlife Team via email at wildlife.licensing@environment.nsw.gov.au.

10.3 Release techniques

Objective

The use of release techniques that ensure the released wombat has the highest likelihood of survival, and information is collected regarding the rehabilitated wombat's fate after release so the relative merits of different rehabilitation and release techniques can be compared.

Standards

- 10.3.1 Wombats destined for soft release must be fed food from the release site for two weeks before release.
- 10.3.2 The release site must be monitored for a minimum of two weeks after release.

Guidelines

- 10.3.3 Wombats should not be ear tagged because of their burrowing behaviour.
- 10.3.4 For identification purposes, wombats may be fitted with a microchip by a registered professional before release.

Note

- All research involving protected animals requires a licence issued under the BC Act and approvals as specified in the Animal Research Act 1985.
- Implanting a microchip can be difficult to achieve on an awake adult animal.

11. Training

11.1 Requirements

Objective

To ensure wildlife rehabilitators have the appropriate knowledge and skills to look after the welfare of wombats in their care.

Standards

- 11.1.1 New wildlife rehabilitators must undertake an introductory training course.
- 11.1.2 Before undertaking wombat rehabilitation, a person must undertake specialist training.
- 11.1.3 A specialist training course 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)
 - teach health and safety issues associated with wombat rehabilitation (e.g. disease transmission, managing hazardous chemicals, and operating in dangerous locations and times)
 - have a written assessment component.
- 11.1.4 Wildlife rehabilitators must be assessed as competent in the relevant areas before undertaking rescue, rehabilitation or release of a wombat.
- 11.1.5 Training must be accompanied by ongoing in-field support from an experienced wombat rehabilitator.
- 11.1.6 All wildlife rehabilitators must undertake professional development and refresh their training for wombats every three years e.g. completing a refresher or advanced training course, or attending a wombat conference, seminar or online course.

Guidelines

- 11.1.7 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)
 - animal behaviour (e.g. feeding, predator avoidance and social interactions)
 - how to keep accurate records.
- 11.1.8 Wildlife rehabilitators should be proficient in:
 - species identification
 - wombat handling techniques
 - first aid for injured wombats
 - recognising the signs of disease, stress and recovery
 - animal husbandry.

Notes

- The department has prepared Wombat Rehabilitation Training Standards for the Volunteer Wildlife Rehabilitation Sector including a wombat trainer's guide to ensure volunteers are trained to be competent in the implementation of this code.
- Attendance at wombat conferences or seminars may require pre-approval from a wildlife rehabilitator's group training coordinator to be eligible for consideration.

12. Record keeping

12.1 Keeping a register

Objective

To maintain a database of wombats that have entered rehabilitation, to inform improved rehabilitation outcomes for individual animals, and contribute to our knowledge of the ecological viability of wombat species.

Standards

- 12.1.1 Licensed wildlife rehabilitation providers, zoological parks and individuals must maintain a current register of all wombats 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)
 - care provider's (name and address of the initial assessor, name and address of the wombat rehabilitator)
 - fate details (date, final disposition, location and any permanent marking).

These records must be submitted to the Wildlife Team (<u>wildlife.licensing@environment.nsw.gov.au</u>) once a year using an approved electronic template.

- 12.1.2 Wombat 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 6.2: Monitoring).
- 12.1.3 When an individual wombat is transferred to another wildlife rehabilitator or organisation for any reason, copies of its records must be transferred with it.

Guidelines

- 12.1.4 Wildlife rehabilitators should record the following additional information at the time of rescue:
 - who discovered the wombat (name and contact details)
 - when the wombat was discovered (time of day)
 - any treatment provided before transport.
- 12.1.5 Wombat rehabilitators should record the following additional information at the time of assessment by a veterinarian or experienced wombat rehabilitator:
 - estimated age of the animal
 - degree of development (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).

- 12.1.6 Wombat rehabilitators should record the following additional information at the time of entry into a rehabilitation facility:
 - standard length measurements
 - identifying features if the wombat is to be housed communally
 - housing (e.g. intensive care, intermediate care or pre-release) (see Section 8: Housing).
- 12.1.7 Wombat rehabilitators should record details of the following daily care information:
 - the type and quantity of food and liquid ingested
 - treatment (e.g. medication, therapy)
 - instructions from veterinarians and species coordinators
 - changes to general fitness and behaviour
 - enclosure cleaning (e.g. quantity and quality of faeces and urine).
- 12.1.8 Wildlife rehabilitators should record the following additional information regarding fate:
 - if released, details regarding the type of release (hard or soft)
 - if released, details regarding the condition of the animal (e.g. weight).
- 12.1.9 Wombat rehabilitators should keep duplicates or backups of records to avoid information being lost.
- 12.1.10 If the death of a wombat is suspected to be the result of an act of cruelty, the wombat rehabilitator should immediately contact their wildlife rehabilitation provider who will then advise the appropriate authorities.
- 12.1.11 If the death of a wombat is suspected to be the result of a serious disease outbreak, the wombat rehabilitator should immediately contact their group's species coordinator to ascertain whether tissue analysis or a necropsy is required. The DPI Emergency Animal Disease Hotline (24 hours) on 1800 675 888 must be notified immediately.
- 12.1.12 Sightings of wombats that do not require rescue should be uploaded into NSW BioNet and should contain encounter details (date, location, encounter circumstances and a unique ID number) as well as whether the wombat was alive or dead.

13. More information

- Animal carcass disposal
- Animal Research Act 1985
- Australian Code for the Care and Use of Animals for Scientific Purposes
- BC Act Schedule 5
- BC Act <u>section 2.14 (4)</u>
- Biodiversity Conservation Act 2016
- DPI Emergency Animal Disease Hotline
- Environment Protection and Biodiversity Conservation Act 1999
- Firearms Act 1996
- How do I remove a wombat
- Local Government Act 1993
- National Parks and Wildlife Act 1974
- National Parks and Wildlife Regulation 2019 s.11
- Northern hairy-nosed wombat
- NPWS Area Manager
- NSW BioNet
- NSW Department of Primary Industries (DPI)
- NSW Health
- Poisons and Therapeutic Goods Act 1966
- Prevention of Cruelty to Animals Act 1979
- Q fever
- Rehabilitation of Protected Native Animals Policy
- Southern hairy-nosed wombat
- Veterinary Practice Act 2003
- Wildlife rehabilitation reporting
- Wombat Rehabilitation Training Standards for the Volunteer Wildlife Rehabilitation Sector

14. Further reading

Department of Planning, Industry and Environment 2020, *Rehabilitation of Protected Native Animals Policy*, NSW Department of Planning, Industry and Environment, Parramatta NSW.

Vogelnest L & Portas T (eds) 2019, *Current therapy in medicine of Australian mammals*, CSIRO Publishing, Clayton South Victoria, Australia.

Vogelnest L & Woods R (eds) 2008, *Medicine of Australian Mammals*, CSIRO Publishing, Collingwood Victoria.

Appendices

Appendix 1: Wombat species relevant to this code

Bionet Atlas code	Common name	Scientific name	BC Act 2016 NSW listing	EPBC Act 1999 federal listing
1165	Bare-nosed wombat	Vombatus ursinus		
1168	Southern hairy- nosed wombat	Lasiorhinus latifrons	endangered	
1169	Northern hairy- nosed wombat	Lasiorhinus krefftii	extinct	critically endangered

Appendix 2: Approximate wombat weight by age

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)	1430 grams	880 grams	
210 days (7 months)	2250 grams	1350 grams	
240 days (8 months)	3350 grams	2200 grams	
270 days (9 months)	4600 grams	3250 grams	
12–15 months	12–19 kilograms		

(Vogelnest & Woods 2008)