



Office of
Environment
& Heritage

Code of Practice for Injured, Sick and Orphaned Koalas



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Preface

The Code of Practice for Injured, Sick and Orphaned Koalas (the Code) is intended for anyone authorised by the Office of Environment and Heritage (OEH) to rehabilitate and release koalas (*Phascolarctos cinereus*). It has been developed to protect the welfare of koalas in care and for the conservation of wild koala populations. The Code contains both standards and guidelines for the care of koalas and is designed to be read in conjunction with the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH 2011).

Koalas are listed as vulnerable under the *Threatened Species Conservation Act 1995*. The koala population in the Pittwater Local Government Area and in the Hawks Nest and Tea Gardens areas are listed as endangered.

Both the *NSW Recovery Plan for the Koala* (DECC 2008) and the *National Koala Conservation and Management Strategy 2009–2014* (Australian Government 2009) have high welfare standards for koalas in care as a key objective. The Code is intended to contribute to this objective.

Compliance with the Code does not remove the need to abide by the requirements of the *Prevention of Cruelty to Animals Act 1979* and any other laws and regulations, for example, the *Local Government Act 1993*.

Compliance with the standards in the Code is a condition of licences issued (under Section 120 of the *National Parks and Wildlife Act 1974* (NPW Act)), to rehabilitate and release sick, injured and orphaned protected fauna. Failure to comply with a licence condition is an offence under the Section 133 of the NPW Act and may result in a Penalty Infringement Notice being issued or the commencement of a prosecution.

The Code has been prepared by OEH in consultation with Friends of the Koala, Koalas In Care, Native Animal Trust Fund, WIRES, Hunter Koala Preservation Society and the Koala Preservation Society NSW. It is also supported by the NSW Animal Welfare Advisory Council within the Department of Primary Industries.

The Code is neither a complete manual on animal husbandry, nor a static document. It will be revised as necessary to take into account new knowledge of animal physiology and behaviour, technological advances, developments in standards of animal welfare and changing community attitudes and expectations about the humane treatment of koalas. OEH will consult with licence holders regarding potential changes to the Code and give written notice when the Code is superseded.

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1. Introduction

This Code sets the standards for the care and housing of koalas that are incapable of fending for themselves in their natural habitat. It comprises both enforceable provisions and guidelines. Enforceable provisions are identified by the word 'standards' and these **must** be followed.

2. Interpretations and definitions

2.1. Interpretations

Objectives

Objectives are the intended outcome(s) for each section of the 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 usually indicates a higher level of care than the minimum standard, 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.

2.2. Definitions

In this Code:

- **Fauna rehabilitator** means someone who is either authorised by a fauna rehabilitation group or zoological park or is individually licensed by OEH to rehabilitate and release protected fauna.
- **Fauna rehabilitation** means the temporary care of injured, sick or orphaned fauna with the aim of successfully releasing it back into its natural habitat.
- **Fauna rehabilitation group** means an incorporated group that is licensed by OEH to rehabilitate and release protected fauna.

- **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 NPW Act.

3. Case assessment

Refer to Section 4 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH 2011).

4. Rescue

Objective

To conduct a koala rescue so as to minimise further stress and injury to the animal.

4.1. Standards

- 4.1.1 Prior to a rescue attempt, the rescuer must assess the risks to the koala from environmental hazards and from capture.
- 4.1.2. Rescuers must employ the correct rescue equipment for the condition and location of the koala and be trained in its use.
- 4.1.3. The following methods must not be used to capture a koala:
 - noosing with a rope that tightens
 - shaking the tree
 - cutting the tree down.
- 4.1.4. The rescue attempt must be suspended if the koala is exhibiting signs of stress (e.g. crying or panting).
- 4.1.5. If the koala is a suspected orphan, the surrounding area must be searched for the mother. If the mother is found and is healthy, attempts must be made to reunite it with its young.
- 4.1.6. If the koala is an injured female with signs of having a pouch young (e.g. swollen teat), the surrounding area must be searched for the young.
- 4.1.7. Rescuers must not move a healthy, independent koala unless it is at immediate risk of injury (e.g. on a road). Such relocations will involve moving the koala a safe distance from the hazard and placing it in a climbable tree.
- 4.1.8. If multiple koalas are rescued (e.g. on a fire ground), the containers the koalas are placed in must be labelled with the capture location.

4.2. Guidelines

- 4.2.1. The rescue of a koala should not be attempted unless at least two trained personnel are involved.
- 4.2.2. If the koala has not been captured after being pursued for 10 minutes, the rescue attempt should be suspended to allow the koala to recover.

- 4.2.3. Rescuers should take steps to protect the koala from additional stressors such as onlookers, loud noises, other animals and extremes of temperature during rescue.
- 4.2.4. A koala should be picked up from behind using a towel or blanket and held firmly by the wrists/forearms.

Notes

A canvas bag, blanket or towel is suitable for catching a koala on the ground.

A long pole with flagging at one end is suitable for encouraging a koala that is close to the ground to move down.

A hoop net is suitable for catching a koala in a difficult location.

A ground trap is suitable for a koala that is too high to flag

Covering a koala's eyes with a towel, blanket or bag will often assist with calming it down.

Researchers are responsible for the welfare of the koalas covered by their animal research authority. It may be useful for researchers to establish a relationship with local rehabilitation groups should such an animal require rescue.

5. Transport

Objective

To minimise further stress and injury to a koala during transport. This section applies to all movement of the koala including from the point-of-rescue to a veterinary surgery and between rehabilitation facilities.

5.1. Standards

- 5.1.1. The transport method and container size must be appropriate for the size and condition of the koala. For example:
- an orphaned pouch young requires an artificial pouch that is secured within a container (e.g. cage, box or basket). Artificial heat (e.g. a hot water bottle) may also be required
 - an adult or sub-adult requires a padded container.
- 5.1.2. The container must be designed, set-up and secured to prevent injuries to the koala. Hessian sacks must not be used as the koala's claws can become entangled and threads can be inhaled.
- 5.1.3. The container must be designed to prevent the koala from escaping.
- 5.1.4. The koala must be placed upright in the container.
- 5.1.5. The container must be kept at a temperature which is appropriate for the age and condition of the koala. For example:
- a range of 20–25°C is appropriate for an adult in most circumstances
 - a range of 28–32°C is appropriate for an unfurred pouch young.

- 5.1.6. The container must be ventilated so air can circulate around the koala.
- 5.1.7. The container must minimise light, noise and vibrations and prevent contact with young children and pets.
- 5.1.8. The koala must not be transported in the back of uncovered utility vehicles, car boots that are separate from the main cabin or on the rescuer's lap.
- 5.1.9. The container must be constructed from material that can be easily cleaned and disinfected.

5.2. Guidelines

- 5.2.1. A container used for transporting an adult or sub-adult koala should contain something for the koala to hold on to (e.g. a rolled up towel).
- 5.2.2. An adult koala should be transported with fresh eucalyptus leaves to assist with calming it.
- 5.2.3. Koala transport should be the sole purpose of the trip and undertaken in the shortest possible time.

6. Euthanasia

6.1. When to euthanase

Objective

To end a koala's life in situations where death is imminent, or recovery is impossible, or the likelihood of successful reintegration into the wild population is remote, or the animal poses an unacceptable health risk to wild animals.

6.1.1. Standards

- 6.1.1.1. A koala 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
 - it is carrying (or suspected to be carrying) an incurable disease that may pose a health risk to wild animals, or
 - it is permanently unable to consume leaf unaided due to an injured jaw or missing/worn teeth.
- 6.1.1.2. A koala 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
 - it is permanently incapable of climbing trees due to a missing or injured claws, digits, limb, pelvis or back bone, or

- it is permanently vision-impaired, hearing-impaired, or anosmic (can't smell) such that it is unable to survive in its natural habitat, or
- its ability to handle branches is permanently impaired due to a missing or injured digits, or
- its advanced age renders it unable to survive in its natural habitat.

In certain exceptional circumstances, OEH may grant permission to hold such animals in permanent care. See the *Rehabilitation of Protected Fauna Policy* (DECCW 2010) for details.

Notes

A koala with a late-stage Chlamydia infection is extremely difficult to cure and poses a health risk to wild koalas.

The age of a koala can be determined through examining pre-molar and molar wear using a tooth-wear chart. For an example see Figure 8.4 in Vogelnest and Woods (2008).

6.2. How to euthanase

Refer to Section 7.2 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna*, (OEH2011).

6.3. Disposal of carcasses and animal waste

Objective

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

6.3.1. Standards

- 6.3.1.1. 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.
- 6.3.1.2. A koala that has died from disease or chemical means (e.g. barbiturate overdose) must not be fed to other fauna.

6.3.2. Guidelines

- 6.3.2.1. A deceased koala should undergo a necropsy if the cause of death is uncertain.

7. Care procedures

7.1. Monitoring

Objective

To check the health of a koala undergoing rehabilitation so that issues can be promptly identified and managed. The type and frequency of monitoring will vary with the type of injury or illness and required treatment.

7.1.1. Standards

- 7.1.1.1. A dependent koala (i.e. pouch young) or a koala in intensive care must be monitored repeatedly during the day and weighed at least twice per week.
- 7.1.1.2. An independent juvenile koala or a koala in intermediate care must be monitored at least once per day and weighed at least once per week.
- 7.1.1.3. A koala being prepared for release must be monitored at least every few days to determine if it is physically and behaviourally ready for release (See Section 11 Suitability for Release).
- 7.1.1.4. Rehabilitators must regularly monitor the temperature within an enclosure that contains thermal support, to ensure that temperatures, appropriate to the animals' condition, are maintained (e.g. blankets, hot water bottles and electric heat mats).

7.1.2. Guidelines

- 7.1.2.1. On admission, a koala should be checked for:
 - bleeding, puncture wounds or matted wet-looking fur
 - bone fractures
 - rapid breathing or elevated heart rate
 - dilated pupils or erratic eye movements
 - enlarged lymph nodes
 - pale or blue mucous membranes
 - cold extremities
 - ticks
 - discharge from the eyes, nostrils, mouth or cloaca
 - odd smells.
- 7.1.2.2. Monitoring a koala should entail:
 - manually assessing body condition and demeanour
 - checking for signs of injury, disease and parasites
 - assessing hydration using the 'pinch test'
 - determining how much leaf has been consumed
 - noting the quantity and quality of scats and urine
 - looking for indications of activity.

7.2. Controlling disease transmission between animals

Refer to Section 8.2 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH2011).

8. Husbandry

8.1. Food and water

Objectives

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

8.1.1. Standards

- 8.1.1.1. Clean, fresh drinking water must be available at all times and changed daily, except in the case of dependent young (See Section 9.1.1.7).
- 8.1.1.2. 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 koala.
- 8.1.1.3. Fresh leaves must be available for the koala to eat at all times and replaced daily, except in the case of dependent young. Leaves may be harvested every few days and stored prior to use.
- 8.1.1.4. Stored leaves must not be accessible to pets, pests and wild animals and must be protected from contamination and nutritional and moisture loss (i.e. stored in containers of fresh water for a maximum of three days).
- 8.1.1.5. Leaves from at least two different eucalyptus species must be offered to the koala each day. At least one of these species must be a preferred eucalyptus species sourced from the area in which the koala was found.
- 8.1.1.6. Branches must be placed in holders that contain clean water. The water must be emptied and re-filled as necessary to keep the leaf hydrated.
- 9.1.1.7. A hand-reared koala must be fed a milk formula that is appropriate for its stage of development.

8.1.2. Guidelines

- 8.1.2.1. Leaves from non-eucalyptus food trees that are sourced from the area in which the koala was found should be offered as a supplement.
- 8.1.2.2. Milk supplements should be offered to an adult koala in the intensive and intermediate care stages.
- 8.1.2.3. Contaminant-free dirt and bark should be offered to a koala in the intermediate and pre-release stages.
- 8.1.2.4. The choice of eucalyptus species offered to a koala should be varied every few days.
- 8.1.2.5. Leaves should be sprayed with water before being offered to a koala.
- 8.1.2.6. Both young and mature leaves should be offered to a koala.
- 8.1.2.7. Leaves should not be collected from the side of a major road as they are likely to be contaminated.

- 8.1.2.8. Leaves should not be dragged across the ground as they may become contaminated.
- 8.1.2.9. If multiple koalas are kept within the same enclosure, branches should be placed in different locations so that all koalas can feed simultaneously.

8.2. Hygiene

Refer to Section 9.2 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH2011).

9. Housing

9.1. General requirements

Refer to Section 10 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH2011).

9.2. Intensive care housing

Objectives

To reduce activity for a short period of time in order to facilitate frequent monitoring, treatment, feeding and re-hydration. It is suitable for severely injured or diseased adults and orphaned pouch young.

9.2.1. Standards

- 9.2.1.1. Intensive care housing must provide sufficient space for the koala to sit upright and to stretch its body and limbs, but not enough space to crawl around.
- 9.2.1.2. Intensive care housing must contain a prop for the koala to hold on to (e.g. a shortened branch with a fork for an adult and a stuffed toy for a juvenile).
- 9.2.1.3. Intensive care housing must provide a constant temperature appropriate to the age and nature of the illness or injury.
- 9.2.1.4. The temperature in intensive care housing must be regularly monitored using a thermometer and electrical heat sources must be regulated by a thermostat.
- 9.2.1.5. A koala in intensive care housing must experience a light-dark cycle that replicates outside conditions.
- 9.2.1.6. Intensive care housing must be designed and/or positioned so that visual and auditory stimuli are reduced (e.g. by covering the animal with a towel and placing it in a quiet room).
- 9.2.1.7. Intensive care housing must be adequately ventilated without allowing excessive drafts.
- 9.2.1.8. Substrate used in intensive care housing must be replaced daily.

9.2.2. Guidelines

- 9.2.2.1. Intensive care enclosures should have floor dimensions of at least 0.7 m long by 0.7 m wide.

9.3. Intermediate care housing

Objectives

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

9.3.1. Standards

- 9.3.1.1. Intermediate care housing must provide sufficient space for the koala to move about freely whilst being conveniently sized for capture.
- 9.3.1.2. Intermediate care housing must contain at least one branch with a fork and one horizontal pole.
- 9.3.1.3. A koala in intermediate care housing must experience a light-dark cycle that replicates outside conditions. This may be achieved by using a well-lit room or constructing an enclosure in a sheltered area outside.

9.3.2. Guidelines

- 9.3.2.1. Intermediate care enclosures should have floor dimensions of at least 2 m long by 1 m wide.

9.4. Pre-release housing

Objectives

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

9.4.1. Standards

- 9.4.1.1. Pre-release housing must provide sufficient space for the koala to move about freely, express a range of natural behaviours and withdraw from undue conflict with co-housed koalas.
- 9.4.1.2. Pre-release housing must provide areas where the koala can gain exposure to prevailing weather conditions and locations where it can shelter.
- 9.4.1.3. Pre-release housing must contain habitat that enables the koala to perform a range of natural behaviour. A koala requires at least two tree forks to allow climbing.
- 9.4.1.4. 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.

9.4.2. Guidelines

- 9.4.2.1. Pre-release enclosures should have floor dimensions of at least 4 m long by 3 m wide and provide at least 3 metres of usable vertical space.
- 9.4.2.2. Pre-release enclosures should contain a variety of natural branches oriented both vertically and horizontally. Branches should have different thicknesses and textures.
- 9.4.2.3. Leaves should be positioned in such a way as to encourage exercise.
- 9.4.2.4. Pre-release enclosure walls should be smooth, at least 1.5 m high and at least 2 m from the nearest branch to prevent escape.

10. Suitability for release

Objectives

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

10.1. Standards

- 10.1.1. A koala must not be released until it is physically ready. This status has been achieved when:
 - it has recovered from any injury and/or disease (e.g. climbs normally)
 - its weight is within the appropriate range for that age (koalas are normally independent at 18 months of age weighing 3.5–4 kg)
 - its body score is 3 (fair) or better as determined by scapula, cranial and limb musculature examination
 - it has appropriate fitness levels as determined by observation
 - its pelage is adequate for survival in its natural habitat (i.e. fur covering the entire body)
 - it has acclimatised to prevailing climatic conditions.
- 10.1.2. A koala must not be released until it is behaviourally ready. This status has been achieved when:
 - it can recognise and consume eucalyptus leaves unaided
 - it can recognise and successfully avoid predators (including pets)
 - it is not attracted to humans (i.e. not humanised) or to sights, sounds or smells that are specific to captivity (i.e. not imprinted)
 - it can climb effectively.
- 10.1.3. A koala's readiness for release must be confirmed by either a veterinarian or experienced fauna rehabilitator.

11. Release considerations

11.1. Timing of release

Objectives

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

11.1.1. Standards

- 11.1.1.1. Once a koala is deemed ready for release, it must be released as soon as conditions are suitable (see 11.1.1.2).
- 11.1.1.2. A koala must be released when weather conditions encourage high activity levels. Release during extremes of temperature and storms must be avoided.

11.2. Release site selection

Objectives

To ensure that the wild koala population and natural environment are not negatively impacted by the release of the koala. The welfare of the rehabilitated koala after release is a secondary consideration.

11.2.1. Standards

- 11.2.1.1. If the exact location where the koala was found is known and it is a suitable environment for release, it must be released there.

A suitable environment for release is one that:

- contains appropriate habitat and an adequate number of food trees
- is occupied by other koalas
- does not place the koala at a high risk of injury (e.g. a suburban park surrounded by busy roads).

- 11.2.1.2. If the exact location where the koala was found is known but it is an unsuitable environment for release, the koala must be released in a suitable environment as near as possible to this location, without transporting it across a physical boundary that it would not normally cross (e.g. a river) or further than it would normally move (10 km for adults; 30 km for hand-reared sub-adults).

If there is no suitable environment within 10 km (adults) or 30 km (hand-reared sub-adults) of the rescue location, the koala must not be released.

- 11.2.1.3. If only the general location where the koala was found is known and it contains or adjoins a suitable environment for release, the koala must be released there without potentially transporting it across a physical boundary that it would not normally cross, or further than 10 km (adults) or 30 km (hand-reared sub-adults). If the general location where the koala was found is wider than 10 km (adults) or 30 km (hand-reared sub-adults) at its widest point, the koala must not be released.

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

11.2.1.5. A koala can only be released in a park if:

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

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

11.2.2. Guidelines

11.2.2.1. A koala should be released in an area that is connected to other suitable koala habitat.

11.2.2.2. If a koala is going to be released in a different area from where it was found, rehabilitators should first survey the area for resident koalas. A sub-adult koala should not be released into the home range of an adult koala.

Note

Rehabilitators who wish to release a rehabilitated or hand-reared koala further than 10 km (adults) or 30 km (hand-reared sub-adults) from where they were found require a translocation approval issued by OEH (under section 132c of the NPW Act).

11.3. Release techniques

Objectives

The use of release techniques that facilitate successful reintegration into the wild population. The collection of information regarding the fate of rehabilitated koalas after release so that the relative merits of different rehabilitation and release techniques can be compared.

11.3.1. Standards

11.3.1.1. Rehabilitators must arrange for the koala to be ear-tagged prior to release (numbered swivel sheep tags are appropriate).

11.3.2. Guidelines

11.3.2.1. A hand-reared koala should be soft released. This can involve putting the koala into a food tree that is surrounded by a temporary fence. After a few days the fence can be removed.

11.3.2.2. A hand-reared koala should be released with a similarly aged koala with which it has been housed.

11.3.2.3. Rehabilitators should not release multiple adult koalas at a single location, as increased competition is likely to have a detrimental effect on the existing koala population.

11.3.2.4. A koala should be fitted with a micro-chip prior to release. Rehabilitation groups and zoological parks are encouraged to develop post-release monitoring programs to determine survivorship.

Note

All research involving protected fauna requires a licence issued under section 132c of the NPW Act and an ethics approval issued under the *Animal Research Act 1985*.

12. Training

Refer to Section 13 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH2011).

13. Record keeping

Refer to Section 14 of the *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH 2011).

14. References and further reading

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