NSW GOVERNMENT

Department of Planning, Industry and Environment

Code of Practice

for injured, sick and orphaned possums and gliders

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Cover photo: Common brushtail possum (*Trichosurus vulpecula*). Shona Lorigan/DPIE

Acknowledgments: This code has been prepared for the department by Shona Lorigan in consultation with the veterinary specialists at the Taronga Wildlife Hospitals, NSW Wildlife Information, Rescue and Education Service Inc (WIRES) and NSW Wildlife Council members: FAWNA NSW Inc (For Australian Wildlife Needing Aid), Native Animal Trust Fund Inc (NATF), Native Animal Rescue Group Inc, Northern Rivers Wildlife Carers Inc, Northern Tablelands Wildlife Carers Inc, Sydney Metropolitan Wildlife Services Inc, Tweed Valley Wildlife Carers Inc, Wildlife ARC Inc, Wildlife in Need of Care Inc, Wildcare Queanbeyan Inc. and Wildlife Rescue South Coast Inc.

Published by:

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ISBN 978-1-76058-452-8
EES 2021/0224
First published in August 2021; reprinted November 2021 with corrections to sections 8.3.7 and 8.4.6.

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Preface

The *Code of Practice for Injured and Sick Possums and Gliders* (the code) is intended for those authorised to rescue, rehabilitate and release possums and gliders. 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 Possum and Glider 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 possums and gliders. The Department of Planning, Industry and Environment (the department) will consult with licence holders regarding potential changes to the code and give written notice when the code is superseded.

The code is complemented by Initial Treatment and Care Guidelines for Rescued Possums and Gliders. The purpose of the guidelines is to standardise the management of possums and gliders requiring rescue or rehabilitation, in line with the code. It includes detailed information about the management of these animals following rescue, from capture to physical examination, initial stabilisation and treatment before presentation to a veterinarian.

1. Introduction

This code sets standards for the care and housing of a possum or glider that is incapable of fending for itself in its natural habitat. It refers to 12 species of nocturnal marsupials from the Phalangeriformes suborder that have been recorded in New South Wales (see Appendix 1). While 11 species are arboreal, the mountain pygmy-possum is an exception as it is found closer to the ground in rocky alpine areas. Two species and six populations of possums and gliders have been listed as endangered in New South Wales. There are a further three species listed as vulnerable in New South Wales.

Three species of possums and gliders are listed as vulnerable or 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 possum and glider rescue, rehabilitation and release:

Prioritise the welfare of possums and gliders

The main objective of wildlife rehabilitation is to relieve suffering in sick or injured wildlife. The rehabilitation and release of possums and gliders 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 possum and glider 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 possum and glider 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 possums and gliders 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 possums and gliders undergoing rehabilitation, and the resources to adequately prepare the possum or glider 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 possum or glider 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 possums and gliders 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).

Browse refers to the tender shoots, twigs, and leaves of trees and shrubs used by possums and gliders for food.

Brushtail possums means the possums from the Trichosurus genus.

Drey is the nest of a ringtail possum *(Pseudocheirus peregrinus)*. It is a hollow construction of leaves, bark, twigs, and foliage and usually spherical in design.

Experienced possum and glider rehabilitator means someone who has extensive knowledge of current rehabilitation techniques gained through training courses and many years of successfully rehabilitating and releasing possums and gliders.

Gliders are also known as gliding possums and belong to the *Petauroides, Petaurus* and *Acrobates* genera. They use their membrane flaps along their flank, which act like a sail when their limbs are extended, to dive from tree to tree. A list of NSW gliders is provided in Appendix 1.

Nubs are the large opposable hallux on the rear feet of a possum or glider, used to groom, climb and forage.

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*.

Possums are small tree-dwelling marsupials with a prehensile tail that belong to the*, Burramys*, *Cercartetus*, *Pseudocheirus* and *Trichosurus* genera. A list of NSW possums is provided in Appendix 1.

Pouch young are joeys that are at a pre-emergent phase of development and still milk-dependent. It includes younger furless and lightly furred joeys that are always in the pouch, as well as older furred joeys that spend time both in and out of the pouch and remain close to their mother.

Pygmy possums means possums from the *Burramys* and *Cercartetus* genera.

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 the 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.

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

2. Case assessment

2.1 Assessing possums and gliders

Objective

To assess possums and gliders in order to determine the type of intervention required. The primary objective of rehabilitation is the successful reintegration of the possum or glider back into the wild population, and all decisions are in pursuit of this goal. This will mean that some possums or gliders 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 possum and glider encounter.

2.1.2 Rescuers must arrange for the possum or glider 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 phone.

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 a policy for managing negative interactions with possums that advocates the use of non-lethal measures as the initial and first management response to nuisance animals: Possum Management Policy.

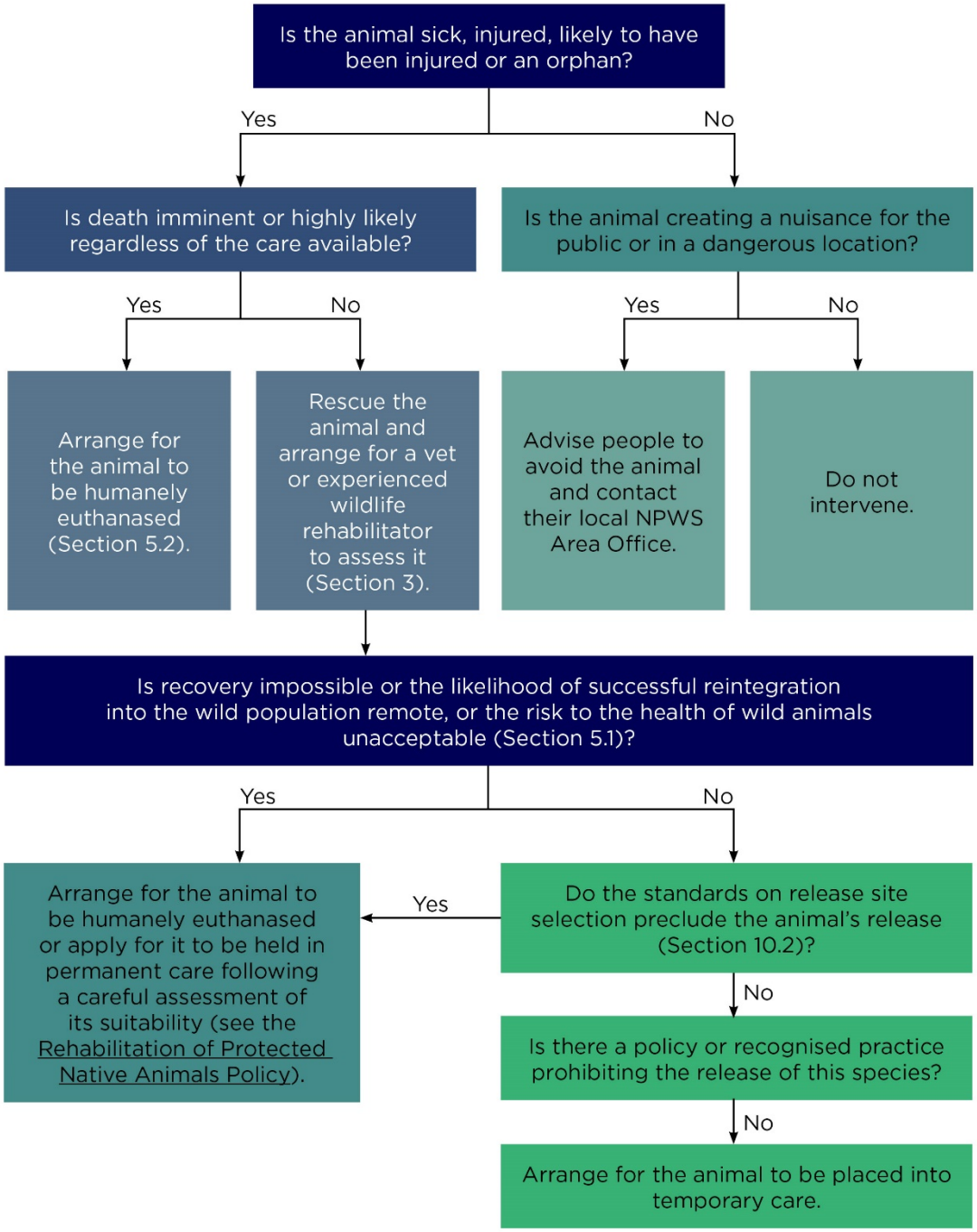

Figure 1 **Decision tree for course of action when a possum or glider is encountered**

3. Rescue

3.1 Rescuing possums and gliders

Objective

To conduct a possum or glider 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 possum or glider from environmental hazards and from 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 possum or glider and be trained in its use (see Section 11 Training). For example, nets and bags on an extendable pole for most possum and gliders.

3.1.4 Care must be taken when using traps for rescue to prevent damage to a possum's feet and face due to stress. Wildlife rehabilitators must ensure the trap:

- is placed in location before the possum wakes up to forage (i.e. just before dusk)
- is placed and secured on a flat surface
- has a plastic and insulation layer placed beneath it to protect the animal from the cold and prevent damage from urination
- is an appropriate size for the species, e.g. Elliot trap for small gliders and pygmy possums, possum traps with a maximum 2-centimetre aperture for the wire mesh for possums and large gliders
- has no sharp surfaces, to prevent injury
- is covered (except for the door) to provide a dark environment
- is baited with an appropriate food for possums and gliders (i.e. not junk food) including a sufficient quantity for the length of time they will be in the trap
- is continually monitored, e.g. checked no later than first light the next morning
- is removed or the door closed and covered during daylight hours to prevent non target animals being caught.

3.1.5 Capture must be swift and effective with the goal of promptly containing the mammal by a means that limits exposure to additional stressors such as onlookers, loud noises, other animals and extremes of temperature.

3.1.6 If attending a deceased female possum or glider:

- check the pouch for young
- unfurred (pinkies) and lightly furred (velvet) joeys may be attached to the teat and must be removed by cutting the teat close to the mother's body – this is to prevent damage to the joey's palate (see Appendix 2 for pouch young stage of development)
- do not pull the joey from the pouch by a limb or the tail

- removing a joey from a dead mother is delicate and must be done by, or in consultation with, an experienced wildlife rehabilitator
- do not cut the pouch or teat of a live possum or glider.

3.1.7 If the possum or glider is an injured female with signs of having pouch young (e.g. elongated teat, stretched pouch), the surrounding area must be searched for the young and the site monitored if the animal is not immediately found. As the number of joeys differs between species (see Appendix 3), rescuers must search for more than one joey when required.

3.1.8 If multiple possums or gliders are rescued (e.g. on a fire ground), the containers they are placed in must be labelled with the capture location, date and rescuer's name.

3.1.9 Possums and gliders will hide injury and pain, and rescuers must take this into consideration when designing their rescue plan.

3.1.10 Rescuers must only attempt to rescue a possum or glider when a sufficient number of trained personnel for that situation and species are involved. For example:

- complex entanglement in barbed wire or orchard netting requires at least two rescuers, one to hold and contain the possum or glider while the other either cuts the net or fence or methodically removes the entanglement.

3.1.11 Rescuers must ensure the tail of the possum or glider is protected from damage as they can easily fracture. A possum or glider must not be caught by the tail, the tail must not be bent backwards, and care must be taken when placing joeys into a pouch to ensure the tail is not trapped in the elastic ties at the end.

3.1.12 Rescuers must use suitable work health and safety techniques to minimise the risk of injury to the rescuer. For example:

- wearing personal protective equipment such gloves and long sleeves
- seeking professional help when rescues involve cutting tree branches or cutting down trees (e.g. on a fireground).

Guidelines

3.1.13 If the risk of injury to a healthy, independent possum or glider is not immediate (excluding possums that are on the ground in the middle of the day), the hazard should be removed, where possible, and the animal should be observed and allowed the opportunity to move away from the risk independently.

3.1.14 When using a trap for rescue, wildlife rehabilitators should ensure the trap is monitored every four to six hours.

3.1.15 Rescues that involve a joey on a mum's back should have an extra person to prevent the joey from escaping.

Notes

- Taking several photos or including the mother's carcass will assist wildlife rehabilitation providers to identify the species of a rescued orphaned joey.
- Placing a towel or pillowslip over a possum or glider will assist in calming it and reduce the risk of bite and injury.
- If a joey is removed still attached to the teat, a large safety pin placed through the teat will ensure the joey does not swallow it.

4. Transport

4.1 Moving possums and gliders

Objective

To minimise further stress and injury to a possum or glider during transport. This section applies to all movements of possums and gliders, 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 species, size and condition of the possum or glider.

- an orphaned pouch young requires an artificial pouch, made from soft fibres, that is secured within a container (e.g. cage, box or basket). Artificial warmth may also be required. The heat source must be placed on the outside of the pouch to prevent the animal from coming into direct contact with it.

4.1.2 Containers must be designed and set up to prevent injuries to the possum or glider. For example:

- covering floors with a non-slip, non-ingestible, tangle-free surface
- securing to prevent movement
- if using an artificial pouch or transport bag for pouch young or small possums and gliders, it must be placed inside a larger solid transport container to prevent injuries from the seatbelt.

4.1.3 Containers must be designed to prevent the possum or glider from escaping. e.g. pouch young and small possums and gliders require a pouch or bag that is tied off at one end.

4.1.4 While in the container or pouch, the possum or glider must be positioned so its breathing is not restricted, and its pain or discomfort is minimised.

4.1.5 The container must be well-ventilated so air can circulate around the possum or glider.

4.1.6 The container must be kept at a temperature that is appropriate for the age and condition of the possum or glider:

- 26°C is appropriate for an adult, subadult and furred pouch young in most circumstances
- 30°C is appropriate for velvet pouch young
- 32°C is appropriate for an unfurred pouch young.

4.1.7 The ambient temperature and condition of the possum or glider must be monitored during transport.

4.1.8 Containers must minimise light, noise (e.g. radio) and vibrations and prevent contact with young children, pets, cigarette smoke and strong smells. For example, cover the container with a breathable dark cloth.

4.1.9 Transport containers must be constructed from a non-porous material that can be easily cleaned and disinfected.

4.1.10 Possums or gliders must not be transported in the back of uncovered utility vehicles, car boots that are separate from the main cabin, in the rescuer's lap or on the body and under the clothing of the rescuer.

4.1.11 The use of medication to facilitate transport must only be undertaken with consultation and approval by a veterinarian.

4.1.12 Transport of the possum or glider must be the sole purpose of the trip and undertaken in the shortest possible time.

4.1.13 When transporting a possum or glider already in care, place them in their usual nest box or pouch, secured within another transport container to reduce stress.

Guidelines

4.1.14 Subadult and adult possums or gliders should not be fed or watered during trips lasting less than a few hours. Unfurred (pinkie) or velvet joeys may require feeding to ensure their normal feeding routine is not disrupted.

4.1.15 A container used for transporting an adult or subadult possum or glider should contain something for the possum or glider to hold on to (e.g. a rolled-up towel) but it should not be newspaper.

4.1.16 Multiple orphaned young from the same mother, or possums and gliders already buddied for rehabilitation, should be transported within the same pouch or nest box and not separated into separate transport containers.

4.1.17 Wildlife rehabilitation providers that do not have suitable enclosures for gliders should transport them to facilities with these enclosures within 24 hours unless following the directions of an experienced glider rehabilitator or a veterinarian experienced with gliders.

5. Euthanasia

5.1 When to euthanase

Objective

To end a possum or glider'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 animal poses an unacceptable disease risk to other animals in the wild once released.

Standards

5.1.1 A possum or glider 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 a missing or injured jaw, tongue, or missing or worn teeth
- an experienced wildlife veterinarian makes that recommendation
- if it is at a stage of development where it is unlikely to be hand-reared to the point where it can be released (i.e. non furred pouch young with its mouth still fused and ear canals not open, see Appendix 2)
- it has significant burns to the face, genitals, digits, nail beds, tail or feet.

5.1.2 A possum or glider must be euthanased (unless the department has granted permission to hold it in permanent care) when:

- its ability to locomote normally (i.e. climb, walk or glide) is permanently impaired (e.g. missing a limb or both of the nubs, loss of more than 30% of a possum's tail, damage to a glider's tail or the leading edge of its membrane)
- 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 ability to successfully forage is permanently impaired
- its advanced age renders it unable to survive in its natural habitat
- it is a territorial possum or glider that has been in care for an extended period (e.g. one month for adult male brushtail possums) - this does not include species listed in Schedule 1 of the BC Act.

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.

5.1.3 The decision to euthanase pygmy possums, greater gliders, yellow-bellied gliders and endangered squirrel glider populations listed in Schedule 1 of the BC Act must not be based solely on the availability of carers within the rescue group. The group must liaise with other licensed groups to facilitate care.

Guidelines

5.1.4 A possum or glider should be euthanased when it is severely affected by exudative dermatitis. Wildlife rehabilitators should seek veterinary advice and consider whether:

- more than 20% of its body is affected
- there is extensive scarring around the face
- movement is affected
- it is a subadult dispersing male
- there is no significant improvement after 14 days of treatment.

5.1.15 Possums and gliders with loss of one or more digits, or a possum with any damage to the tail, should be continually assessed during the rehabilitation phase to ensure their ability to locomote is compatible with survival and thriving post-release.

5.1.16 A possum or glider should be euthanased (unless the department has granted permission to hold it in permanent care) when it is a territorial possum or glider in a densely populated urban location (e.g. suburban Sydney) that has been in care for an extended period (e.g. two weeks for adult male brushtail possums). This does not include species listed in Schedule 1 of the BC Act.

5.1.17 Injured and sick female possums and gliders in care that meet the criteria for euthanasia that have non-viable dependent pouch young should not be kept alive to incubate the young.

5.1.18 The decision to euthanase should not be based solely on the availability of carers within the rescue group. The group must liaise with other licensed groups to facilitate care.

5.2 How to euthanase

Objective

To induce death with minimal pain and distress to the possum or glider.

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 a euthanasia procedure and before disposal of the carcass. The absence of a heartbeat and the loss of corneal reflexes indicate death has occurred.

5.2.3 Acceptable methods for euthanasia of possums and gliders include:

- anaesthesia followed by an intravenous (preferred) or intracardiac injection of sodium pentobarbital; this must be performed by a veterinarian
- gunshot to the brain for large possums
- blunt force trauma to the base of the skull.

5.2.4 The following euthanasia methods must not be used on possums or gliders:

- suffocation via drowning, strangulation or chest compression
- freezing or burning
- carbon dioxide or carbon monoxide in any form

- poisoning with household products
- air embolism
- exsanguination or decapitation without prior stunning
- electrocution or microwave irradiation
- chloroform or strychnine
- neuromuscular blocking agents.

Guidelines

5.2.5 Shooting should be undertaken 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 Force.

5.2.6 A possum or glider 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

- 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.

5.3 Disposal of carcasses and animal waste

Objective

To dispose of waste so the risks of disease or contamination are minimised.

Standards

5.3.1 Carcasses and organic waste must either be incinerated (under licence), 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 A possum or glider that has died from disease or chemical means (e.g. barbiturate overdose) must not be fed to other animals.

5.3.4 If there is a suspicion of tularaemia infection in a ringtail possum that has died, the carcass must be handled with care. Immediately notify the DPI Emergency Animal Disease Hotline (24 hours) on 1800 675 888. Necropsies must not be undertaken unless there has been consultation with Wildlife Health Australia. The registry can be contacted at (02) 9978 4749 or (02) 9978 4788.

Guidelines

5.3.4 If the cause of death is uncertain, a deceased possum or glider should, whenever possible, undergo a necropsy by a veterinarian (except in the circumstances described in Standard 5.3.3).

5.3.5 Pap should be harvested from recently deceased ringtail possums within half an hour of death, but not from a possum suffering from disease or that was euthanased by chemical means (e.g. barbiturate overdose).

5.3.6 Wildlife rehabilitators should make every effort to reduce the risk of contracting zoonoses such as leptospirosis, tularaemia and fungal infections by:

- wearing personal protective equipment such as a mask, gloves and gown
- having vaccinations for tetanus and Q fever.

5.3.7 The Australian Museum should be contacted for all dead species listed in Schedule 1 of the BC Act (only squirrel gliders from listed populations), as these carcasses are of scientific significance.

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 possum or glider undergoing rehabilitation.

Standards

6.1.1 Within 24 hours of admission, all possums rescued with major trauma or as a result of dog or cat attack or bushfire must undergo veterinary assessment or examination by an experienced wildlife rehabilitator supervised by a wildlife veterinarian, on the phone.

6.1.2 Within 24 hours of rescue, greater gliders, yellow-bellied gliders, feathertail gliders and pygmy possums must be transferred to, or supervised by, a wildlife rehabilitator experienced with these species, with immediate consultation with the possum and glider coordinator. In situations where an experienced wildlife rehabilitator is not available, arrangements must be made to transfer the possum or glider to another appropriately licensed group.

6.1.3 Upon admission the species of possum or glider must be identified.

6.1.4 Upon admission a possum or glider must be checked for:

- bleeding from the eyes, mouth, nostrils or cloaca
- clear fluid from the eyes, ears or mouth
- neurological injuries (e.g. head tilt)
- external wounds (e.g. puncture wounds) or matted, wet-looking fur
- bone fractures (i.e. include jaws, tail and all limbs)
- injury to the gliding membrane (e.g. rips and tears) for glider species
- body condition by manual assessment (standardised score out of 5) and fat levels at the base of the tail for pygmy possums
- signs of lethargy (e.g. demeanour is quiet, animal is easily handled)
- respiration and heart rate (e.g. rapid breathing, panting, open-mouth breathing and elevated heart rate)
- eye condition (i.e. dilated or uneven pupils, erratic eye movements, sunken eyes, blindness and cataracts)
- signs of shock (e.g. pale or blue mucous membranes, cold extremities)
- temperature
- hydration levels (skin pinch check, tongue is dry and sticky, sunken and dull eyes)
- disease or infection (e.g. abnormal breath sounds, swollen lymph nodes, discharge from eyes, nose and cloaca, diarrhoea)
- external parasites (i.e. check the entire body, look for eggs on the fur)
- odd smells
- fur condition

- pouch condition for females (e.g. presence of young, enlarged or elongated teat, maggots, infection)
- physical palpation of the abdomen to ensure it is not distended and to assess for nodules or masses (e.g. the abdomen is soft and not swollen)
- mobility (e.g. climbing, walking and tail grip)
- injury to the digits or claws
- swelling and lumps (e.g. tumour, abscess or cyst).

6.1.5 Upon admission a possum or glider must also be weighed measured, and the stage of development identified (see Appendix 2).

6.1.6 Ringtail possums with suspected tularaemia must be handled with care. Immediately notify the DPI Emergency Animal Disease Hotline (24 hours) on 1800 675 888 for an immediate assessment, as this poses a serious health threat.

6.1.7 A rapid change of temperature must be avoided for possums or gliders that are suffering from hyperthermia or hypothermia. Upon admission they must be placed in a quiet dark location and the temperature increased (hypothermia) or decreased (hyperthermia) gradually over a few hours.

6.1.8 Once identified, disease or injury must be managed according to severity and this will generally require veterinary input. Management of possums and gliders in care must always strive for optimal animal welfare. Recognition and management of pain is important.

Guidelines

6.1.9 A possum or glider suspected of suffering rat bait poisoning should immediately be taken for veterinary assessment which may include a blood test to assess blood clotting factors and vitamin K treatment.

6.1.10 A dead female with pouch young should have its abdominal wall checked for signs of haemorrhaging, an indication of rat bait poisoning, to assist with the treatment of the pouch young.

6.1.11 Possums or gliders that are trauma victims (e.g. motor vehicle impact) or not using their limbs or tail should have a veterinary assessment and X-rays.

6.1.12 Where admission is the result of a traumatic injury (e.g. dog attack, motor vehicle impact, bush fire victim) the possum or glider should be given pain relief, treated for shock and given fluid therapy.

6.1.13 Upon admission possums and gliders should be placed in a dark quiet location (unless admission is from a major trauma) for a minimum of half an hour to reduce stress.

6.1.14 When assessing a possum or glider joey for viability, wildlife rehabilitators should consider the following criteria, as their presence will reduce viability:

- severe dehydration
- low body temperature (cold to touch)
- lethargic (unresponsive to gentle handling)
- wounds (other than a superficial scratch to a non-essential area)
- bruising indicative of attempted predation or other trauma.

Notes

- Feathertail gliders, sugar gliders, squirrel gliders and pygmy possums drop their temperature just before going into torpor and this is a natural occurrence.
- Shining a UV light on a possum or glider will assist in identifying possible victims of dog or cat attack, as it shows the presence of body fluids.

6.2 Monitoring

Objective

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

Standards

6.2.1 Monitoring a possum or glider must entail:

- visually assessing body condition
- determining food intake levels
- noting quantity and quality of scats and urine
- determining climbing mobility
- looking for changes in behaviour. e.g. signs of aggression and stress
- noting pelage and skin condition
- checking for signs of injury, disease and parasites.

6.2.2 Juvenile, subadult and adult possums and gliders in intensive care must be monitored at least twice a day.

6.2.3 Greater gliders and yellow-bellied gliders in intensive care must be weighed daily, as they are easily stressed and can lose weight quickly.

6.2.4 Orphaned pouch young must be monitored at each feed and weighed as follows:

- smaller possums and glider species (e.g. feathertail glider, sugar glider, squirrel glider, pygmy possum species) must be weighed daily.
- larger possum and glider species (e.g. common brushtail possum, ringtail possum, greater glider, yellow-bellied glider) must be weighed daily until they show a stable weight gain – once stabilised, unfurred and lightly furred joeys must be weighed every two days, and both furred and emerged joeys must be weighed twice a week.

6.2.5 Juvenile, subadult and adult possums and gliders in intermediate care must be monitored daily and weighed as follows:

- smaller possum and glider species (e.g. feathertail glider, sugar glider, squirrel glider, pygmy possum species) must be weighed daily to ensure issues can be identified quickly
- larger possum and glider species (e.g. common brushtail possum, ringtail possum, greater glider and yellow-bellied glider) must be weighed weekly.

6.2.6 Subadult and adult possums and glider species in pre-release care must be discretely monitored daily and weighed as follows:

- smaller possum and glider species (e.g. feathertail glider, sugar glider, squirrel glider, pygmy possum species) in pre-release care must be weighed weekly, as long as they remain active and energetic
- larger possum and glider species (e.g. common brushtail possum, ringtail possum, greater glider and yellow-bellied glider) must be weighed weekly, if they can be caught without causing stress, as they have begun the dehumanising phase of their rehabilitation.

6.2.7 Subadult and adult short-eared possums must be weighed at admission and pre-release, but weighing during rehabilitation must be based on their condition due to their strong, feisty demeanour.

6.2.8 When multiple possums and gliders are in pre-release care, they must be discretely monitored for signs of aggression.

6.2.9 Buddied possums or gliders must be continually monitored to ensure they are receiving an adequate share of the food and water provided in the aviary.

6.2.10 A possum or glider being prepared for release must be observed daily, from a distance, to determine if it is physically and behaviourally ready (see Section 9 ‘Suitability for release’).

6.2.11 Possums and gliders must be weighed before release.

6.2.12 Wildlife rehabilitators must monitor the ambient temperature within enclosures containing thermal support (e.g. blankets and electric heat mats) at least once a day to ensure appropriate temperatures are maintained. Electrical heat sources must be regulated by a thermostat.

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.

6.3 Controlling disease transmission between animals

Objective

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

Standards

6.3.1 Each newly arrived possum or glider must be isolated in a separate area until its disease status can be determined by a veterinarian or experienced wildlife rehabilitator.

6.3.2 Possums or gliders suspected or known to be carrying an infectious disease must be kept under strict quarantine conditions (e.g. individual enclosure in a separate room) throughout their rehabilitation, and wildlife rehabilitators must wear personal protective equipment (e.g. gown, mask and gloves).

- signs of disease may include abnormal breath sounds, swollen lymph nodes, discharge from eyes, nose and cloaca, diarrhoea.

6.3.3 If an unusual disease or 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.

6.3.4 If there is a suspicion of tularaemia infection in a ringtail possum, it must be handled with care. Immediately notify the DPI Emergency Animal Disease Hotline (24 hours) on 1800 675 888.

6.3.5 Dedicated cleaning equipment must be used for enclosures housing possums or gliders with a suspected or confirmed infectious disease. This equipment must not be shared.

6.3.6 All enclosures, transport containers, enclosure furniture, food and water containers must be thoroughly cleaned and disinfected with an appropriate disinfectant (e.g. 'F10' which contains both antibacterial and antiviral properties) between each occupant.

6.3.7 Other species undergoing rehabilitation must not be kept in the same enclosure as a possum or glider.

6.3.8 Wildlife rehabilitators must wash their hands thoroughly with soap or disinfectant before and after handling each animal in care.

6.3.9 When handling multiple animals, rehabilitators must start with the healthiest and finish with the sickest to reduce the risks of disease transmission.

6.3.10 Possums or gliders that have been buddied that start to exhibit signs of disease or illness should be separated from their companions and the companion animals should also be quarantined until cleared of disease.

6.3.11 Wildlife rehabilitators must refrain from being too affectionate (e.g. kissing) or placing possums and gliders inside their clothing as there is an increased risk of disease transmission (e.g. tularaemia and salmonella) from scratches and bites.

Guidelines

6.3.3 Wildlife rehabilitators should make every effort to reduce the risk of contracting zoonoses such as salmonella, tularaemia 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.

6.3.4 Pest control for rats and mice is recommended for all rehabilitation facilities.

Notes

- If unwell, wildlife rehabilitators should seek medical advice and advise the doctor that they are caring for a sick animal and there is a possibility of having contracted a disease.
- It is recommended that pregnant women or immunocompromised people do not handle or care for sick animals.

7. Husbandry

7.1 Food and water

Objective

To ensure the possum or glider has a feeding and watering regime that encourages rapid recovery, supports growth in juveniles, and assists with 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 pouch young.

7.1.2 When required by orphaned dependent pouch young, extra hydration must be offered separately from the formula feeds and not by diluting the milk feed formula.

7.1.3 Maintenance fluid requirements vary depending on many factors. Careful attention must be paid to the total fluid intake to avoid dehydration, particularly for possums and gliders in intensive care, intermediate care and orphaned dependent pouch young. The amount required will depend on the stage of development, environmental conditions and the presence of illness or injury.

7.1.4 A hand-reared possum or glider must be fed a milk formula that is appropriate for their stage of development.

7.1.5 Stored foliage and leaves must not be accessible to pets, pests and wild animals. It must be stored in a manner that protects it from contamination (e.g. not dragged across the ground), and nutritional and moisture loss (i.e. stored in containers of fresh water for a maximum of two days).

7.1.6 Fresh native browse (at least two different varieties) must be available for the possum or glider (excluding unfurred or velvet joeys) to eat at all times, and replaced daily. The browse must include both mature and young foliage.

7.1.7 Food that is available in the wild must form the majority of the animal's diet.

7.1.8 Possums and gliders must be provided with a balanced and complete diet that supports growth and development and is appropriate for the species, size, stage of development, mobility and physiological status of the animal. For example:

- possums and gliders require a variety of native foods suitable for the species (see Appendix 4)
- possum and glider joeys that are being weaned require extra protein; this can be from a protein supplement
- as soon as a possum and glider joey's teeth have erupted, they will need access to leaf tips
- all gliders require access to bark and browse with insect activity, including the sweet, waxy secretion known as lerp left by insects or with evidence of insect trails
- the diet of insects (e.g. meal worms and crickets) being raised to feed to possums and gliders must include vitamin supplements (i.e. gut loading)
- ringtail possums under 250 grams must not be fed any fruit, vegetables or flowers due to the detrimental effect on their developing gastrointestinal health,

and this must be strictly limited (e.g. no more than 5% of their total diet) for ringtail possums over 250 grams, as this does not mimic the wild diet

- possums and gliders must not be fed anything from the family Brassicaceae (e.g. cabbage, cauliflower, kale or broccoli) as it could result in gastric dilatation and volvulus (bloat) and possible kidney and bladder damage
- care must be taken to ensure possums and gliders maintain a healthy weight by promoting the consumption of natural browse and limiting non-native fruits and vegetables.

7.1.8 Consideration must be given to avoid toxic flora species (e.g. lantana, oleander and hydrangea) as it will result in poisoning.

7.1.9 Subadult and adult possums and gliders are nocturnal and must be fed just before dark.

7.1.10 Nutritional and fluid support is vital for adult possums and gliders in the intensive and intermediate care stages if their appetite is depressed or they are dehydrated. A variety of liquidised or pureed products and commercial formulas suitable for herbivores must be used for this purpose, as advised by a veterinarian or experienced possum and glider rehabilitator.

7.1.11 Food and water must be placed in several locations throughout the enclosure (e.g. different heights, hidden) to ensure that possums and gliders, except for those that are in intensive care, are provided with opportunities for enrichment and exercise for good health.

Guidelines

7.1.12 Possums and gliders in pre-release housing should be fed browse from the area where they will be released.

Notes

- Joeys of the same age and stage of development can vary significantly in the quantities of formula ingested at each feed.
- Gently stimulating the cloaca of joeys that have not emerged from the pouch, before or after each feed will encourage voiding of faeces and urination.

7.2 Hygiene

Objective

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

Standards

7.2.1 Faeces must be removed daily and disposed of so it cannot be consumed by other animals (e.g. in closed garbage or compost bins).

7.2.2 Uneaten browse must be removed every two days and kept separate from the fresh browse provided daily. Uneaten browse is suitable to place on the enclosure substrate to promote normal behaviours (e.g. drey building).

7.2.3 Food and drinking water containers must be cleaned daily. Cleaning involves the use of water, detergent and the physical removal of all residues.

7.2.4 Artificial bedding and pouches must be cleaned when soiled.

7.2.5 Weighing equipment must be cleaned and disinfected between each possum or glider.

7.2.6 Enclosures must be disinfected and rinsed for each new possum or glider.

7.2.7 Non-fixed enrichment furniture (perches, nest boxes, ropes) must be replaced between each occupant, while permanent enrichment furniture must be disinfected and rinsed.

7.2.8 Bottles, teats and syringes used for feeding pinkies and velvet joeys must be sterilised before every feed.

7.2.9 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.

7.2.10 A possum or glider must be cleaned when soiled with faeces, urine or uneaten food.

7.2.11 Wildlife rehabilitators must minimise the disturbance to possums and gliders when cleaning.

7.2.12 Food that requires thawing must be thawed in a refrigerator (less than 4°C) over 24 to 48 hours, and unused food must never be refrozen. Food that is thawed and has been in a fridge for 24 hours and not fed to the possum or glider must be discarded.

7.2.13 Wildlife rehabilitators must **wash their hands** and clean all food preparation surfaces and equipment before preparing possum and glider food.

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

7.3 General care

Objective

To ensure possums and gliders 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 When buddying a possum or glider joey, it must be with the same species.

7.3.2 All husbandry requirements must be covered in possum and glider-specific training (see Section 11 ‘Training’).

7.3.3 The rehabilitation of unfurred and lightly furred joeys (see Appendix 2) is difficult and complex, and must only be undertaken by experienced possum and glider rehabilitators.

Guidelines

7.3.4 The buddying of hand-raised possums and gliders (except the greater glider), based on weight and stage of development, is recommended to develop natural behaviours and minimise stress. Wildlife groups should liaise with other groups to facilitate buddying where possible.

7.3.5 When buddying juvenile brushtail possums, consider:

- whether the release site can accommodate two possums

- not buddying two male possums.

7.3.6 Buddying of juvenile social species (e.g. ringtail possums, feathertail gliders, sugar gliders and squirrel gliders) should be undertaken by an experienced possum and glider rehabilitator and include the following:

- no introduction of a new juvenile to an existing buddied group
- commence the buddying process in a new enclosure rather than one already being used
- ensure the enclosure has enough space and multiple dreys and nestboxes
- ensure the enclosure has new enrichment activities.

7.3.7 Each possum or glider should have a husbandry plan.

7.3.8 Possums and gliders are very prone to habituation to people. Care should be taken to minimise social interactions with humans, and natural behaviours should be allowed to develop.

Note

Better outcomes occur when buddying of possums and gliders is undertaken before the joey has emerged from the pouch, except for mountain brushtail possums where buddying is best undertaken after they emerge from the pouch.

8. Housing

8.1 General requirements

Objective

To ensure a possum or glider 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. For example:

- wire included in housing for most possum and glider species must have an aperture less than one square centimetre
- for feathertail gliders and pygmy possums, enclosures lined with a fine mesh such as flyscreen
- for adult feathertail gliders, a glass fish tank so the walls are hard to climb and a wire mesh top
- no gaps greater than one square centimetre in the enclosure around the door or between the base of the enclosure, walls or ceilings.

8.1.2 Housing must be made safe for a possum or glider to live in by excluding hazards that might harm it. For example:

- openings for foliage containers need to be small enough to prevent the possum or glider from getting their head trapped or drowning
- enclosures must be free of exposed wires, sharp edges, or sharp sticks.

8.1.3 Housing must be designed and positioned (or both) to protect the possum or glider from physical contact with wild animals, domestic livestock, domestic pets and pests.

8.1.4 Housing must be designed so rehabilitators can readily access the possum or glider.

8.1.5 The inner liners of artificial pouches must be made from breathable soft fibres (e.g. cotton, flannelette or bamboo) and have no loose threads.

8.1.6 The outer pouch must be made from a breathable fabric (e.g. wool) and have no loose threads. If a synthetic fibre is used, the possum or glider must not be able to reach it as it is easily ingested.

8.1.7 Once a possum or glider joey has emerged from the pouch it must start to spend time outside and be dehumanised.

8.1.8 Housing must be positioned so the possum or glider is not exposed to strong vibrations, noxious smells (e.g. wood smoke) or loud noises (e.g. radios and televisions, vehicles or barking dogs).

8.1.9 Housing must be designed and positioned to avoid extremes of temperature. For example:

- not exposed to the western sun or prevailing winds
- not located in direct sunlight
- include areas that remain in the shade.

8.1.10 Housing must be constructed from non-toxic materials that can be easily cleaned and disinfected.

8.1.11 Nest boxes and dreys must:

- be waterproof
- provide privacy
- the appropriate size for the species and number of animals
- minimise exposure to extremes of temperature
- contain suitable insulation
- be constructed from breathable products (e.g. exterior-grade hardwood, plywood or hollow logs and not plastic)
- not be made from plastic or terracotta pots.

8.1.12 If multiple animals of the same species are kept within a single enclosure, there must be sufficient space for individuals to avoid undue conflict and stress. They must be monitored for signs of aggression.

8.1.13 At all stages when a possum or glider joey would have access to their mother's pouch in the wild, they must be provided with a pouch.

8.1.14 When transitioning from the pouch, a possum or glider joey must be provided with both a pouch and a nest box or drey.

8.1.15 Subadult and adult possums and gliders (except ringtail possums. sugar gliders and squirrel gliders) must not be housed together unless they have come into care together and this must only be undertaken by an experienced possum and glider rehabilitator.

8.1.16 When multiple possum or gliders are housed together, multiple nest boxes, dreys, pouches (for joeys) and places to hide must be provided.

8.1.17 Possums and gliders from the same litter must not be housed separately unless an individual is being treated for an injury where contact with another possum or glider poses a risk of disease transmission or injury.

8.1.18 Mothers must not be housed away from their dependent young unless treated for an injury. Contact with another possum or glider poses a risk of disease transmission or injury.

8.1.19 Possums and gliders must have housing that is predator-proof (e.g. python, fox, rodent and bird of prey) and may require wire mesh roofing or fine wire mesh protection around the base of the enclosure.

Guideline

8.1.12 Enclosures listed in each stage of rehabilitation are suitable for an average-sized adult. Smaller individuals may not require the space specified and larger individuals may require more space.

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 possum or glider to sit upright, to stretch its body and limbs and to move away from urine and faeces, but not enough space to climb.

8.2.2 Intensive care housing must provide a constant temperature appropriate to the possum or glider's stage of development or the nature of its illness or injury.

8.2.3 The temperature in intensive care housing must be regularly monitored using a thermometer, with minimal disturbance to the possum or glider.

8.2.4 Electrical heat sources must be regulated by a thermostat.

8.2.5 Possums or gliders (excludes pouch young) in intensive care housing must experience a light–dark cycle that replicates outside conditions.

8.2.6 Intensive care housing must be designed and positioned to reduce visual and auditory stimuli (e.g. by covering with a towel and placing in a quiet room).

8.2.7 Intensive care housing must be adequately ventilated without allowing excessive draughts.

8.2.8 Substrate used in intensive care housing must be soft (e.g. towels, blankets, lamb fleece and sheeting) and replaced when soiled.

8.2.9 Intensive care housing must permit easy access for the wildlife rehabilitator to clean the facility and medicate and assess the animal.

8.2.10 Intensive care enclosures must be a minimum of 0.8 metres from the ground except for mountain pygmy-possums.

8.2.11 Intensive care enclosures must have the following floor dimensions:

- pygmy possum species at least 0.3 metres long by 0.2 metres wide
- ringtail possums at least 0.35 metres long by 0.3 metres wide
- common brushtail possums at least at 0.5 metres long by 0.4 metres wide
- short-eared brushtail possums and mountain brushtail possums at least 1 metre long by 1 metre wide
- feathertail gliders at least 0.3 metres long by 0.2 metres wide
- sugar gliders and squirrel gliders at least 0.4 metres long by 0.3 metres wide
- greater glider and yellow-bellied glider at least 1 metre long by 0.6 metres wide.

8.3 Intermediate care housing

Objective

To provide a mobile possum or glider 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 possum or glider to move about freely while being conveniently sized for capture.

8.3.2 Intermediate housing must contain habitat elements that enable the possum or glider to perform a range of natural behaviours. For example:

- a place for the possum or glider to hide e.g. a nest box or drey

- fresh browse and foliage for nest and drey building
- at least three climbing branches of different textures and heights for climbing.

8.3.3 A possum or glider 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.

8.3.4 Intermediate housing outside needs to be sheltered from prevailing weather conditions such as rain, wind and sun.

8.3.5 Substrate used in intermediate housing must be absorbent and easily cleaned or replaceable. Particle substrate (e.g. straw, wood shavings, or sawdust) must not be used.

8.3.6 Electrical heat sources must be regulated with a thermostat.

8.3.7 All food and water containers and nest box or drey for all possums (except the mountain pygmy-possum) and all gliders must be secured to the side of the housing or secured on a shelf above the floor. They must not be placed on the floor of housing.

8.3.8 If using mobile intermediate housing that is less than 1.5 metres long by 1.5 metres wide and 1.5 metres high, it must be placed at least 0.8 metres off the ground except when used for a mountain pygmy-possum.

8.3.9 Intermediate care enclosures must have the following floor dimensions:

- pygmy possum species at least 0.6 metres long by 0.6 metres wide with a height of 0.6 metres
- ringtail possums at least 1 metre long by 0.6 metres wide and a height of 1.5 metres
- common brushtail possums 1 metre long by 0.6 metres wide and a height of 1.5 metres
- short-eared brushtail possums and mountain brushtail possums at least 1 metre long by 1 metre wide and a height of 1.5 metres
- feathertail gliders at least 0.6 metres long by 0.6 metres wide and a height of 0.6 metres
- sugar gliders and squirrel gliders at least 1 metre long by 0.6 metres wide and a height of 1.5 metres
- greater glider and yellow-bellied glider at least 1.5 metres long by 0.6 metres wide and a height of 1.5 metres.

Guidelines

8.3.10 If more than one possum or glider is in the intermediate enclosure it should be increased by 10% of the measurements included in the standards.

8.3.11 Intermediate care enclosures for short-eared possums should have floor dimensions of 2 metres long by 2 metres wide and a height of 2 metres.

8.3.12 Intermediate enclosures for feathertail gliders should have floor dimensions of 1 metre long by 0.6 metres wide and a height of 1 metre.

8.4 Pre-release housing

Objective

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

Standards

8.4.1 Pre-release housing must provide sufficient space for the possum or glider to move about freely and express a range of natural behaviours. For example:

- brushtail possum species need to run about the enclosure in short bursts
- glider species need height from which to glide.

8.4.2 Pre-release housing must provide areas where the possum or glider 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 possum or glider to perform a range of natural behaviours. For example:

- branches of different thickness and textures and to improve climbing skills
- natural fibre ropes or a log, with a diameter of greater than two centimetres, hung vertically and horizontally so that it swings to encourage agility and mobility
- foliage and browse for drey and nest building
- gliders require bark to scratch and gouge
- ringtail possums require bark and foliage for drey building.

8.4.4 Pre-release housing must provide hanging foliage, branches or logs for the possum or glider to climb if they fall to the ground.

8.4.5 Foliage, browse and bark must be positioned in such a way as to encourage exercise.

8.4.6 All food and water containers and nest box or drey for all possums (except the mountain pygmy-possum) and all gliders must be secured to the side of the housing or secured on a shelf above the floor. They must not be placed on the floor of housing.

8.4.7 A nest box or drey in pre-release housing must be at least 1.5 metres off the ground except when it is for a mountain pygmy-possum.

8.4.8 Pre-release housing must contain at least two containers for both water and food.

8.4.9 Pre-release housing must be designed and positioned so that exposure to humans is kept to the minimum required for monitoring, feeding and cleaning.

8.4.10 All orphaned joeys raised in care must spend time in pre-release housing before release.

8.4.11 Any animal that has been in care for more than a week must go into pre-release housing before release to regain fitness.

8.4.12 Pre-release enclosures must have the following floor dimensions:

- pygmy possum species at least 1.5 metres long by 1.5 metres wide with a height of 1.8 metres

- ringtail possums at least 1.5 metres long by 1.5 metres wide and a height of 1.8 metres
- common brushtail possums 1.5 metres long by 1.5 metres wide and a height of 1.8 metres
- short-eared brushtail possums and mountain brushtail possums at least 3 metres long by 2 metres wide and a height of 2 metres
- feathertail gliders at least 1.5 metres long by 1.5 metres wide and a height of 1.8 metres
- sugar gliders and squirrel gliders at least 5 metres long by 4 metres wide and a height of 2 metres
- greater glider and yellow-bellied glider at least 5 metres long by 4 metres wide and a height of 2 metres.

Guidelines

8.4.13 If more than one possum or glider is in the pre-release enclosure it should be increased by 10% of the measurements included in the standards.

8.4.14 Pre-release enclosures for common brushtail possums should have floor dimensions of at least 3 metres long by 2 metres wide and a height of 2 metres.

8.4.15 The base of pre-release housing should be made from materials that are easily cleanable such as tiles, cement and dirt, but covered with a substrate layer such as leaf litter, mulch or sand.

8.4.16 Every effort should be made to provide the largest possible enclosure for greater gliders and yellow-bellied gliders in the pre-release stage so the glider can practice jumping, gliding and leaping. Wildlife rehabilitation providers should liaise with other groups and transfer these species to facilities with better height dimensions.

Note

Some commercial mulch products may contain added chemicals which are poisonous to possums and gliders and they must be avoided.

9. Suitability for release

9.1 Preparations for release

Objective

To ensure the possum or glider 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 possum or glider 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. climbs, jumps, runs normally)
- its weight and condition are within the appropriate range for that species, stage of development and sex
- it has appropriate fitness levels as determined by observation
- its pelage is adequate for survival in its natural habitat (i.e. fur is dense and covers most of the body, a tiny patch of missing fur is acceptable, outer fur layer gets wet without going through to the undercoat)
- it has acclimatised to prevailing climatic conditions
- if hand-raised, it has reached the age of dispersal (subadult, see Appendix 2).

9.1.2 A possum or glider must not be released until it is behaviourally ready. This status has been achieved when:

- it can recognise, catch (for insectivore species) and consume appropriate, naturally available food and water
- it can recognise and avoid predators, including pets and domestic livestock (i.e. it has not been allowed to associate with domestic animals and livestock during rehabilitation so its natural instinct to avoid predators remains intact)
- 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
- it can recognise and interact normally with members of its own species
- it reacts normally (e.g. seeks shelter, hides, does shut down or freeze activity) to environmental stressors (e.g. smoke, weather changes, thunderstorms)
- hand-raised possums (excluding ringtail possums) and gliders for species that manipulate their environment exhibit signs of this behaviour e.g. nest building.

9.1.3 A possum or glider's (except yellow-bellied glider, greater glider and pygmy possums) readiness for release must be confirmed by an experienced wildlife rehabilitator.

9.1.4 A yellow-bellied glider, greater glider or pygmy possum's readiness for release must be confirmed by either an experienced possum and glider rehabilitator or a veterinarian with experience in these species.

9.1.5 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 (wildlife.licensing@environment.nsw.gov.au) to arrange placement with an authorised animal exhibitor licensed by DPI.

10. Release considerations

10.1 Timing of release

Objective

To ensure a possum or glider 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 possum or glider 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 A possum or glider must be released at a time of year that facilitates survival and reintegration into the wild population. For example:

- for sexually immature possums and gliders, release must occur before sexual maturity, and when they would naturally disperse
- no release when there is a full moon in non-urban locations
- no release in extreme heat conditions.

10.1.3 A possum or glider must be released when weather conditions encourage high activity levels. They must not be released immediately before or during a storm.

10.1.4 A possum or glider must be released at a time of day that enables it to immediately investigate its environment. (e.g. release at least one hour after dark but before midnight if there is no drey or nest box).

Guidelines

10.1.5 Territorial species may have occupied a territory before coming into care. Adults of these species should be released before their territory is likely to be re-occupied. The average time for this to occur varies between species and geographic location (e.g. if habitat is more densely occupied it will happen faster).

10.1.6 If a social species is absent from its family group for too long, it may not be recognised when it returns and be treated as an intruder (i.e. attacked). Adults and juveniles of these species should be released before their group is likely to forget them. The average time for this to occur varies between species and geographic location.

10.1.7 If a possum or glider is rescued again after soft release and is showing signs of injury or disease, advice must be sought from an experienced wildlife rehabilitator to reassess the possum or glider and determine the best course of action.

10.1.8 If a possum or glider is rescued three times, after the initial two-week soft release period, the wildlife rehabilitator should seek immediate advice from the species coordinator to investigate the following:

- liaise with other wildlife rehabilitation providers for another release site
- 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 (wildlife.licensing@environment.nsw.gov.au) to arrange placement with an authorised animal exhibitor licensed by DPI.

10.2 Release site selection

Objective

To ensure the wild possum and glider populations and natural environment are not negatively impacted by the release of a possum or glider, and the released possum or glider has the highest likelihood of survival.

Standards

10.2.1 If the exact location where the possum or glider was found is known and it has been assessed as a suitable environment for release, the animal must be released there. The exceptions are subadult hand-reared possums or gliders (see Standard 10.2.3).

10.2.2 A suitable environment for release is one that:

- has a variety of native trees and shrubs
- for ringtail possums, contains both tree cover as well as dense shrubs to hide in
- has adequate canopy cover (e.g. mature eucalypts and acacias) with tree height and trees spaced close enough for glider species to glide from tree to tree
- has some contiguous canopy or connecting passages so non-gliding species can move without having to go to the ground; for possums in urban areas this includes fences and rooftops
- for brushtail possum species, has tree height with old and new growth
- for sugar gliders and squirrel gliders, has trees with sap (e.g. wattle species)
- for mountain pygmy-possums, has rocks and low-lying shrubs
- for eastern pygmy-possums, has medium-height shrubs (e.g. banksia species)
- if the animal has been buddied up, can accommodate all of the individuals, particularly for common brushtails and short-eared possums
- for possums and gliders in urban locations, has limited foot traffic (e.g. not next to a restaurant or pub) and reduced predator risk (e.g. no streetlamps directly overhead)
- has no evidence of health issues or infection in the local environment (e.g. exudative dermatitis)
- has no threat of imminent land clearing or development
- does not have a large or increasing number of predators present
- is occupied by members of the same species.

10.2.3 If the location where the possum or glider was found is assessed as an unsuitable environment for release, the possum or glider 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. For example:

- adult brushtail possum species and ringtail possums 150 metres from the rescue location

- hand-raised brushtail possums and ringtail possums must remain within 50 kilometres of the rescue location.

10.2.4 If only the general location where the possum or glider was found is known and it contains or adjoins a suitable environment for release, the possum or glider must be released there without transporting it across a physical boundary that it would not normally cross or further than it would normally move (see Standard 10.2.3).

10.2.5 If there is no information about where the possum or glider was found, it must not be released.

10.2.6 In cases where there is no suitable release site, the wildlife rehabilitation provider must:

- 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 the DPI.

10.2.7 A possum or glider can be released in a park only if:

- 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 policies on translocation.

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

10.2.8 A possum or glider must be released in an area that is connected to other suitable possum or glider habitat (e.g. with corridors of trees and shrubs so that all possums and gliders can run, jump or glide without coming to ground) to aid natural dispersal. See Guideline 10.2.13 for the bushfire exception.

10.2.9 The release site for a greater glider, yellow-belied glider or a pygmy possum must be confirmed by a wildlife rehabilitator with experience in these species.

10.2.10 Wildlife rehabilitators must consider the capacity for the release site habitat to support the possum or glider being released. For example:

- impact on social structure of possum or gliders already present
- impact on other species present such as nesting birds
- availability of resources (e.g. den sites, food and water).

Guidelines

10.2.11 Possums and gliders should not be released at a location that places the animal at a high risk of injury (e.g. near a busy road, where domestic dogs or cats are present, or the possum is perceived as a pest).

10.2.12 Wildlife rehabilitators should develop an understanding of their local population of possums and gliders and apply the best available knowledge to determine release sites.

10.2.13 When releasing possums and gliders in release sites extensively affected by bushfires (e.g. with only refuges and limited connected habitat) wildlife rehabilitators should liaise with their local NPWS area office.

Note

Wildlife rehabilitators who propose to release a possum or glider 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 possum or glider has the highest likelihood of survival, and information is collected regarding the rehabilitated possum or glider's fate after release so the relative merits of different rehabilitation and release techniques can be compared.

Standards

10.3.1 Hand-reared possums and gliders from social species (e.g. feathertail gliders, sugar gliders, squirrel gliders and ringtail possums) must be released with members of the same species.

10.3.2 Wildlife rehabilitators must not release large numbers of individuals at a single location, as increased competition is likely to have a detrimental effect on the existing population. Different factors must be considered based on species, sex, release site location and environmental conditions. For example:

- for hand-raised social species (e.g. feathertail gliders and ringtail possums), multiple possums can be released at the same time, as a family group, limited to a maximum of six per site per year
- two common brushtail and mountain brushtail possums at an urban release site each year
- four common brushtail possums and mountain brushtail possums at a non-urban location which is connected to other suitable habitat for the possum or glider to disperse
- short-eared possums and greater gliders are very territorial and must be limited to one greater glider per year at each release site (a mum and joey release is acceptable) and two short-eared possums per year at each release site
- release numbers must be reduced in times of drought or after bushfires due to reduced habitat capacity
- do not release only males to a release site
- brushtail possum species can impact other species present, such as nesting birds.

10.3.3 All hand-reared possums and gliders must be provided with temporary post-release support ('soft' release).

10.3.4 Nest boxes or dreys must be supplied in locations where there are no natural tree hollows or areas affected by bushfire. They must include the features listed in Standard 8.1.12, as well as:

- not placed on a solitary tree or a deciduous tree
- at least 3 metres from the ground for nest boxes and 2 metres for dreys
- positioned so the possum and glider can enter or exit easily (e.g. on a tree trunk with branches nearby).

10.3.5 If a possum or glider has been hand-reared with a buddy, they must be released together.

Guidelines

10.3.6 Possums and gliders that have been in care for extended periods of time, or being released back into recovering firegrounds, should be provided with temporary post-release support ('soft' release). This may include supplementary feeding, shelter provision, and protection from predators and extreme weather.

10.3.7 Hand-reared possums and gliders should be housed at the release site for at least two weeks before soft release commences.

10.3.8 All soft-released possums and gliders should be monitored for a minimum of two weeks after release.

10.3.9 Wildlife rehabilitators should arrange for possums and gliders to be tagged, microchipped or marked as appropriate for individual identification before release. Wildlife rehabilitation providers and zoological parks are encouraged to participate in post-release monitoring programs to determine survivorship.

Notes

- All research involving protected animals requires a licence issued under the BC Act, and an ethics approval issued under the *Animal Research Act 1985*.
- The use of portable aviaries at soft release sites enables wildlife rehabilitators to move the release sites to different locations, therefore decreasing the chance of a release site being overused.

11. Training

11.1 Requirements

Objective

To ensure wildlife rehabilitators have appropriate knowledge and skills to ensure the welfare of possums and gliders in their care.

Standards

11.1.1 New wildlife rehabilitators must undertake an introductory training course.

11.1.2 Before undertaking possum and glider 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)
- include foliage identification and selection
- teach health and safety issues associated with possum and glider rehabilitation (e.g. disease transmission and operating in hazardous locations)
- have a written assessment component.

11.1.4 Wildlife rehabilitators must have an understanding of:

- the objectives of possum and glider rehabilitation
- wildlife ecology (e.g. population dynamics, habitat selection, competition, and predator–prey interactions)
- animal behaviour (e.g. feeding, predator avoidance, age-appropriate behaviour and social interactions)
- how to keep accurate records.

11.1.5 Wildlife rehabilitators must be proficient in:

- species identification
- possum and glider handling techniques
- first aid for injured possums and gliders
- recognising the signs of disease, pain and stress
- animal husbandry
- possum and glider anatomy and physiology.

11.1.6 Wildlife rehabilitators must be assessed as competent in the relevant areas before undertaking rescue, rehabilitation or release of possums and gliders.

11.1.7 Training must be accompanied by ongoing in-field support from experienced possum and glider rehabilitators.

11.1.8 For yellow-bellied gliders, greater gliders and pygmy possums, training must be accompanied by ongoing support from a wildlife rehabilitator experienced with that species. This can be direct in-field support, or via phone for those in remote locations.

11.1.9 All wildlife rehabilitators must undertake professional development and refresh their training for possums and gliders every three years, e.g. completing a refresher or advanced training course, attending a possum and glider conference or seminar, or completing an online course.

Guidelines

11.1.6 Wildlife rehabilitators should continue their professional development by keeping up to date with the latest findings from scientific papers on possums and gliders and developing a relationship with their local veterinary hospital.

11.1.7 Wildlife rehabilitators should undertake nationally accredited microchip training (e.g. an RSPCA training course) before microchipping a possum or glider.

Notes

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

12. Record keeping

12.1 Keeping a register

Objective

To maintain a database of possums and gliders that have been reported to wildlife rehabilitation providers, to inform improved rehabilitation outcomes for individual animals, and to contribute to our knowledge of the ecological viability of possum and glider species.

Standards

12.1.1 Licensed wildlife rehabilitation providers, zoological parks and individuals must maintain a current register of all protected possums and gliders 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, stage of development, initial weight, release weight and pouch condition)
- care providers details (name and address of the initial assessor, name and address of the possum or glider rehabilitator)
- fate details (date, final disposition, location and any permanent marking).

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

12.1.2 Wildlife rehabilitators must record the weight of the possum or glider 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 a possum or glider is transferred to another wildlife rehabilitator or organisation for any reason, copies of its records must be transferred with it.

12.1.4 If the death of a possum or glider is suspected to be the result of a serious disease outbreak, the wildlife rehabilitator must immediately contact their 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.

Guidelines

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

- who discovered the possum or glider (name and contact details)
- when the possum or glider was discovered (time of day)
- any treatment provided before transport.

12.1.6 Wildlife rehabilitators should record the following additional information at the time of assessment by a veterinarian or experienced possum and glider rehabilitator:

- details of wounds, injuries, diseases and external parasites

- standard measurements (head measurement and tail length)
- details of mobility
- details of abnormal behaviour
- recommended management (e.g. euthanasia or prescribed treatment).

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

- identifying features if the possum or glider is to be housed communally
- housing (e.g. intensive care, intermediate care or pre-release) (see Section 8 ‘Housing’).

12.1.8 Wildlife rehabilitators should record details of the following daily care information:

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

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

- if released, details regarding the type of release
- if released, details regarding the condition of the animal
- tag number and/or microchip number.

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

12.1.11 Sightings of possums or gliders that are not in need of rescue should be uploaded to NSW BioNet and should contain encounter details (date, location, encounter circumstances and a unique ID number) as well as whether the possum or glider was alive or dead.

12.1.12 Wildlife rehabilitators should record the following information for dead possums or gliders:

- cause of death
- necropsy notes
- DNA testing results
- records of care of previous rehabilitation.

12.1.13 If the injury or death of a possum or glider is suspected to be the result of animal cruelty (e.g. premeditated poisoning, shooting), the RSPCA should be contacted.

13. Further reading

Department of Planning, Industry and Environment 2011, *Possum Management Policy*, www.environment.nsw.gov.au/research-and-publications/publications-search/possum-management-policyent, Energy and Science.

Department of Planning, Industry and Environment 2020, *Rehabilitation of Protected Native Animals Policy*, www.environment.nsw.gov.au/research-and-publications/publications-search/rehabilitation-of-protected-native-animals-policy.

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Henderson N (n.d.), *Small Mammals of Eastern Australia: Identification and Care*, Norma Henderson, www.michaelandnorma.com/animals/normas-books-and-manuals/.

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Menkhorst P & Knight F 2010 *A Field Guide to the Mammals of Australia*, third edition, Oxford University Press.

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Pollock J 2006, *Exudative Dermatitis in Common Brushtail Possums*, www.awrc.org.au/darwin-2006.html.

Stenner R 2020, *Advanced Possums and Gliders,* Wildcare Australia Inc.

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Wilson D & Mittermeier R (eds) 2015, *The Mammals of the World, Volume 5: Monotremes and Marsupials*, Lynx Edicions, Barcelona.

Vogelnest L & Portas T (eds) 2019, *Current Therapy in Medicine of Australian Mammals,* CSIRO Publishing, Clayton South VIC, Australia.

Vogelnest L & Woods R (eds) 2008, *Medicine of Australian Mammals*, CSIRO Publishing, Clayton South VIC, Australia.

More information

- Animal carcass disposal
- *Animal Research Act 1985*
- *Animal Research Act 1985*
- *Biodiversity Conservation Act 2016*
- Brassicaceae
- Department offices
- DPI Emergency Animal Disease Hotline
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Firearms Act 1996*
- Initial Treatment and Care Guidelines for Rescued Possums and Gliders
- Leptospirosis

- *Local Government Act 1993*
- *National Parks and Wildlife Act 1974*
- NSW BioNet
- *Poisons and Therapeutic Goods Act 1966*
- Possum and Glider Rehabilitation Training Standards for the Volunteer Wildlife Rehabilitation Sector
- Possum Management Policy
- *Prevention of Cruelty to Animals Act 1979*
- Q fever
- Rehabilitation of Protected Native Animals Policy
- RSPCA training course
- Schedule 5 of the Biodiversity Conservation Act
- Translocation operational policy
- Tularaemia
- *Veterinary Practice Act 2003*
- Wildlife Health Australia

Appendices

Appendix 1: Possum and glider species relevant to this Code

BioNet Atlas code	Common name	Scientific name	BC Act 2016 NSW listing	EPBC Act 1999 federal listing
Pygmy possums: family Burramyidae				
1156	Mountain pygmy-possum	*Burramys parvus*	Endangered	Endangered
1151	Western pygmy possum	*Cercartetus concinnus*	Endangered	
1150	Eastern pygmy-possum	*Cercartetus nanus*	Vulnerable	
Brushtail possums and cuscuses: family Phalangeridae				
1735	Short-eared possum	*Trichosurus caninus*		
1736	Mountain brushtail possum	*Trichosurus cunninghami*		
1113	Common brushtail possum	*Trichosurus vulpecula*		
Ringtailed possums and allies: family Pseudocheiridae				
1133	Greater glider	*Petauroides volans*		Vulnerable
1133	Greater Glider population in the Mount Gibraltar Reserve area	*Petauroides volans*	Endangered population	Vulnerable
1133	Greater Glider population in the Seven Mile Beach National Park area	*Petauroides volans*	Endangered population	Vulnerable
1133	Greater Glider population in the Eurobodalla LGA	*Petauroides volans*	Endangered population	Vulnerable
1129	Common ringtail possum	*Pseudocheirus peregrinus*		
Yellow-belied glider, squirrel glider and sugar glider: family Petauridae				
1136	Yellow-bellied glider	*Petaurus australis*	Vulnerable	
1136	Yellow-bellied Glider population on the Bago Plateau	*Petaurus australis*	Endangered population	
1138	Sugar glider	*Petaurus breviceps*		
1137	Squirrel glider	*Petaurus norfolcensis*	Vulnerable	
1137	Squirrel glider in the Wagga Wagga LGA	*Petaurus norfolcensis*	Endangered population	
1137	Squirrel glider on Barrenjoey Peninsula, north of Bushrangers Hill	*Petaurus norfolcensis*	Endangered population	
1147	Feathertail glider	*Acrobates pygmaeus*		

Appendix 2: Stage of development for possums and gliders

Stage	Fur	Eyes	Ears	Teat attachment	Pouch	Mobility
Unfurred – pinkie						
Stage 1	No	Closed	Fused	Fused	In	None
Stage 2	No	Closed	Fused	Mouth open	In	None
Stage 3	Just under skin	Starting to open	Starting to open	Mouth open	In	None
Lightly furred – velvet						
Stage 1	Fine, flat	Open	Erect	Mouth open	In	None
Stage 2	Fine, sleek and short	Open	Erect	Mouth open	In	None
Furred						
Stage 1	Short and dense	Open	Erect	Mouth open	In and out	Start to explore outside pouch
Stage 2	Thick and fluffy	Open	Erect	Mouth open	In and out	Longer times out
Emerged	Fully furred	Open	Erect	Mouth open	Out	Clings closely to mum
Juvenile	Fully furred	Open	Erect	Mouth open	Out	Moves independently
Subadult	Fully furred	Open	Erect	Mouth open	Out	Weaned, independent and ready for release
Adult	Fully grown, sexually mature and exhibit normal behaviour for an adult of the species					
Geriatric	Display an array of problems associated with old age Arthritis, worn-down teeth and a tatty coat are indicators of an elderly animal					

Appendix 3: Average number of joeys by species

Species	Average number of joeys
Ringtail possum	2
Common brushtail possum Mountain brushtail possum Short-eared possum	1
Eastern pygmy-possum Western pygmy possum Mountain pygmy-possum	4
Feathertail glider	3
Sugar glider Squirrel glider	2
Yellow-bellied glider	1
Greater glider	1

Appendix 4: Wild diet for possums and gliders by species

Species	Diet
Pygmy possum	Nectar, pollen, native fruit, flowers and seeds, small insects
Mountain pygmy-possum	Mountain plum-pine browse, bogon moths, native saps, insects and seeds
Ringtail possum	Eucalyptus browse including leaves, buds and flowers, native fruits, shrubs and flowers
Common brushtail possum	Eucalyptus browse including leaves, buds and flowers, bark, native fruits, shrubs, ferns and flowers
Short-eared possum Mountain brushtail possum	Eucalyptus and mistletoe leaves, bark and buds, native fruits, shrubs and ferns, lichens, fungi
Feathertail glider	Nectar, pollens, native blossoms, small insects
Sugar glider	Acacia and eucalyptus saps, nectar, pollen, insects including moths and cicadas
Squirrel Glider	Pollen, nectar, acacia seeds, sap, insects including beetles, moths and cicadas
Yellow-bellied glider	Native saps, insects, pollen from honeydew, nectar, spiders
Greater glider	Eucalyptus leaves, tips and the stem