



Department of Planning and Environment

Code of Practice

for injured, sick and orphaned native birds



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Preface

The *Code of Practice for Injured, Sick and Orphaned Native Birds* (the code) is intended for those authorised to rescue, rehabilitate and release native birds. The code has been developed to ensure the welfare needs of these birds 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*
- *Fisheries Management Act 1994*

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 Native Bird 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 standards of animal welfare, and changing community attitudes and expectations about the humane treatment of native birds. 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will consult with licence holders regarding potential changes to the code and give written notice when the code is superseded.

1. Introduction

This code sets standards for the care and housing of a native bird that is incapable of fending for itself in its natural habitat. It refers to over 600 species of native birds that have been recorded in New South Wales but does not refer to birds of prey which are covered in the Code of Practice for Injured, Sick and Orphaned Birds of Prey.

Eleven species of native birds are listed as critically endangered, while 20 species and seven populations of native birds have been listed as endangered in New South Wales. There are a further 81 species listed as vulnerable in New South Wales (See Schedule 1 of the BC Act).

Eighteen species of native birds recorded in New South Wales are listed as critically endangered or endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) with a further 15 species listed as vulnerable (see EPBC Act list of threatened fauna).

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

Principles

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

Prioritise the welfare of native birds

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

Avoid harm to wild native bird 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 native bird 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 native birds must understand practical health and safety measures such as undertaking a risk assessment, using personal protective equipment (PPE) 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 have the capacity to provide for the essential needs of native birds undergoing rehabilitation, and the resources to adequately prepare the native

bird 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 3 acceptable management options:

- refer the native bird to another licensed wildlife rehabilitator with a current capacity to care for the animal
- 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 native birds 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.

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.

Definitions

In this code:

Altricial are young birds totally dependent on their parents. They hatch with their eyes closed and are born either fully nude or with a thin covering of down. They are unable to thermoregulate or to feed themselves.

Beach nesting birds nest on the ground, ocean beaches and estuary shorelines. Their nests are prone to significant disturbance by dogs, foxes, unaware beachgoers, 4WD vehicles as well as inundation by king tides and storm surges.

Bird colony is a congregation of individuals that nest in proximity at a particular location.

Barrier nursing means husbandry protocols 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 PPE (e.g. masks, eye protection, gloves, gowns, aprons, overshoes) and using infection control procedures (e.g. equipment sterilisation and regular use of disinfectant).

Cere is the soft, fleshy, typically bare patch at the base of the upper beak of some bird species, particularly many doves, skuas, turkeys and parrots.

Experienced avian rehabilitator means someone who has an extensive knowledge of current rehabilitation techniques gained through training courses and many years of successfully rehabilitating and releasing native birds.

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

Migratory wader is a member of the order Charadriiformes (excluding species in Family Turnicidae and Family Glareolidae) that migrates to the coastal shores and inland waters of Australia.

Native bird means any bird 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).

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*.

Pelagic seabird is a bird that lives predominantly or for long extended periods on the ocean.

Precocial are young birds not dependent on their parents. They hatch with feathers and walk around immediately or very soon after hatching. They are able to thermoregulate and feed themselves.

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.

Seabird is a bird that wades, swims or dives in salt water and forages in salt water.

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, native birds, 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.

Waterbird is a bird found in freshwater wetlands, lakes and waterways. It refers to birds classified in the following taxonomic orders: Anseriformes (swans, ducks, geese), Gruiformes (rails, crakes, swamphens, coot and cranes), Podicipediformes (grebes) and Ciconiiformes (herons, bitterns, stork, ibis, spoonbills). Also included are birds in the Family Phalacrocoracidae (cormorants) and the Australasian darter and Australian pelican.

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 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 native birds

Objective

To assess a native bird in order to determine the type of intervention required. The primary objective of rehabilitation is the successful reintegration of the native bird back into the wild population, and all decisions are in pursuit of this goal. This will mean that some native birds 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 native bird encounter.
- 2.1.2 Rescuers must arrange for the native bird 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 or video conference.
- 2.1.3 The rehabilitation of an albatross (Diomedidae) is difficult and complex and must only be undertaken by rehabilitators experienced in these species. Rehabilitation providers must:
 - arrange for an albatross to be assessed by a wildlife veterinarian 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, advice from a veterinarian experienced in these species must be sought. e.g. via phone or video conference.
 - contact NSW National Parks and Wildlife Service (NPWS); during business hours contact your local NPWS office and outside business hours call 13000PARKS to determine the best facility for rehabilitation
 - liaise with other groups and transfer the albatross to rehabilitation providers that can provide the specialised care they require.

Notes

- An animal creating a nuisance for the public generally refers to an animal that has entered a person's house and/or represents a human health risk. It does not include an animal defending its territory (e.g. magpie) or exhibiting other normal behaviour (e.g. brush turkey building a mound).
- The department has a range of policies for managing negative interactions with aggressive wildlife.

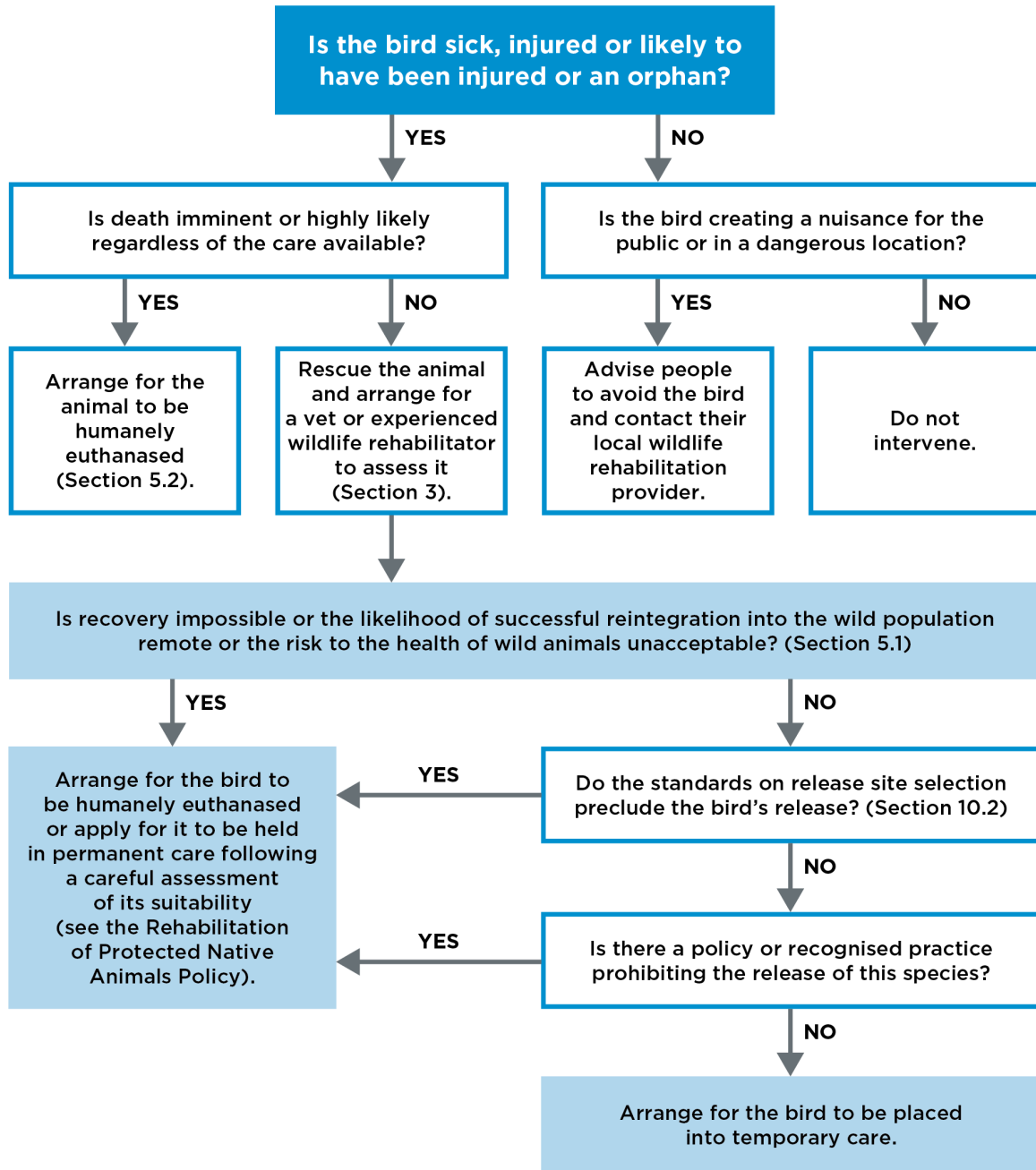


Figure 1 Decision tree for course of action when a native bird is encountered

3. Rescue

3.1 Rescuing native birds

Objective

To conduct a native bird rescue to minimise further stress and injury to the bird.

Standards

- 3.1.1 Before a rescue attempt, the rescuer must assess the risks to the native bird 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 size, condition and species of the native bird and be trained in its use (see Section 11 'Training'). For example, the use of a snare and noose for pelican rescue requires proper training.
- 3.1.4 Rescuers must use suitable work health and safety techniques to minimise the risk of injury to the rescuer. For example:
 - wearing PPE such gloves and long sleeves
 - all rescues that involve climbing a tree must be undertaken by rehabilitators who have undertaken certified 'working with heights' training.
 - rescue of birds near (not on) electrical powerlines must be undertaken with equipment made from non-conductive material
 - wearing leather gloves for large seabirds (e.g. giant petrel, gannet, albatross species)
 - wearing safety glasses for rescue of birds with a long, flexible recoiling neck and sharp beaks such as herons and egrets, to avoid damage to the rescuer's eyes.
- 3.1.5 Rescuers must take steps to protect the native bird from additional stressors during rescue, such as onlookers, loud noises, other animals and extremes of temperature.
- 3.1.6 Rescuers must attempt to rescue a native bird only when a sufficient number of trained personnel for that situation and species are involved. For example, an emu rescue will require at least two people.
- 3.1.7 Rescuers must discreetly monitor healthy nestling and fledgling birds (see Appendix 1), rather than immediately attempting to rescue them, to identify if the bird:
 - has parents nearby to continue care
 - is at risk of attack from domestic or feral animals
 - may be protected by placing nestlings back in the original nest or a substitute nest in a nearby tree, placing branchlings or fledglings back on a branch in a nearby tree, or by erecting temporary fencing
 - for precocial species, can be returned to the family group.
- 3.1.8 Rescuers must hold a wader so its legs dangle to ensure the backward facing leg joints are protected.

- 3.1.9 The following method must not be used to capture a native bird:
- spring-loaded traps that may injure the bird or damage feathers if they close on the bird's body.
- 3.1.10 Wildlife rehabilitation providers must notify NPWS (during business hours contact your local NPWS office and outside business hours call 13000PARKS) for all beach nesting bird rescues (e.g. pelicans, migratory waders, true seabirds). Before rescue is attempted, consideration must be given to:
- the impact of the rescue on the entire colony
 - the welfare of the injured bird
 - other contributing factors including weather events and tide inundation.
- 3.1.11 If multiple native birds are rescued (e.g. storm event or multiple exhausted short-tailed shearwaters on a beach), the containers they are placed in must be labelled with the capture location, date and rescuer's name.

Guidelines

- 3.1.12 Rescue techniques should prioritise the protection and preservation of a bird's feathers.
- 3.1.13 Rescuers should wear disposable gloves when rescuing seabirds to ensure their hands are free from oil and the bird's feathers will remain waterproof.
- 3.1.14 The beak of a native bird should be clamped only for the immediate moment of rescue (maximum 10 seconds) because if they vomit or regurgitate while the beak is held closed, they will aspirate. This is particularly important for some species of seabirds that have no external nares (nostrils) and breathe through their mouth.
- 3.1.15 While moulting little penguins and swans will stay on land for an extended period while their feathers regrow, as they are not waterproof, they should be rescued only if they are at immediate risk of injury (e.g. located on an urban beach, in an off-leash dog area, or an area with high levels of human activity).

Note

- Covering a bird's head, containing both wings in the folded position and holding both legs will often assist with calming a bird and facilitating rapid rescue.

4. Transport

4.1 Moving native birds

Objective

To minimise further stress and injury to a native bird during transport. This section applies to all movements of native birds, including from the point of rescue to a veterinary surgery, between rehabilitation facilities and to a release site.

Standards

- 4.1.1 Transport methods and container sizes must be appropriate for the species, size, temperament and strength of the native bird. For example:
- the native bird must have enough space to stand
 - artificial heat sources (e.g. heat pads) are likely to be required for hatchlings and nestlings unable to thermoregulate. The heat source must be placed on the outside of the container or wrapped in a towel to prevent the bird from coming into direct contact with it.
- 4.1.2 Containers must be designed and set up to prevent injuries to the native bird. For example:
- covering floors with a non-slip, non-ingestible, tangle-free surface
 - lining mesh and wire containers (e.g. with shade cloth to prevent feather damage). Transport containers for parrots are excluded as they may chew and ingest cage lining or become tangled
 - providing a soft raised perch (e.g. a tightly rolled towel with no loose threads) to enable the bird to perch and ensure the tail feathers do not touch the base of the container. Hard wooden perches must not be used
 - supporting native birds unable to perch with a tightly rolled, U-shaped towel with no loose threads
 - paper, straw, sawdust, cat litter, and hay must not be used as a substrate
 - if using a smaller artificial nest or container for hatchlings, nestlings and branchlings, it must be placed inside a larger solid transport container to prevent injuries from the seatbelt
 - securing the container to prevent movement.
- 4.1.3 Containers must be designed to prevent the bird from escaping, e.g. parrots (Psittaciformes) must not be transported in cardboard boxes as they will chew through the container.
- 4.1.4 While in the container, the native bird 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 native bird.
- 4.1.6 The container must be kept at a temperature that is appropriate for the age (see Appendix 1), species and condition of the native bird:
- 28°C is appropriate for fledglings, juveniles, immature and adult birds in most circumstances

- 28–32°C is appropriate for hatchlings, nestlings and branchlings with the higher temperature for younger birds with no feathers
 - 28–30°C is appropriate for ducklings and small waterbirds
 - 26°C is appropriate for penguins, who have poor thermoregulation out of water and can easily overheat.
- 4.1.7 The ambient temperature and condition of the native bird must be monitored regularly during transport.
- 4.1.8 Containers must minimise light, noise and vibrations (e.g. cover the container with a breathable dark cloth) and prevent contact with young children, pets, cigarette smoke and strong smells.
- 4.1.9 Native birds 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.
- 4.1.10 The use of medication to facilitate transport must be undertaken with consultation and approval by a veterinarian.
- 4.1.11 Transport of the native bird must be the sole purpose of the trip and undertaken in the shortest possible time.

Guidelines

- 4.1.12 Juvenile, immature and adult birds should not be fed or watered during trips lasting less than 2 hours. However, hatchlings, nestlings and fledglings may require feeding during shorter trips.
- 4.1.13 For longer transport journeys (over two hours) native birds should be monitored frequently.
- 4.1.14 Transport containers for large birds should be placed so the animal faces sideways to prevent beak damage when the vehicle stops.

5. Euthanasia

5.1 When to euthanase

Objective

To end a native bird'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 bird poses an unacceptable disease risk to other animals in the wild once released.

Standards

5.1.1 A native bird 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 (or suspected to be carrying) an incurable disease that may pose a health risk to other wild animals, e.g. psittacine beak and feather disease (Pbfd).
- its ability to consume food unaided is permanently impaired due to a missing or injured jaw or beak (prosthetic beaks must not be used as they are ineffective over the long term)
- it is imprinted
- an experienced wildlife veterinarian makes that recommendation.

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

- there is no suitable release location
- its ability to locomote normally (i.e. run, climb, crawl, hop, fly or swim) is permanently impaired, e.g. missing or no functional limb, wing, foot, spine or tail
- 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, cere or beak)
- its ability to catch and handle food in a manner characteristic of the species is permanently impaired
- degenerative conditions associated with advanced age (e.g. degenerative arthritis) render it unable to survive in its natural habitat.

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

Guidelines

5.1.3 A bird should be euthanased when:

- its ability to locomote is expected to be impaired for more than three months (excluding pelagic seabirds)
- for pelagic species, when rehabilitation will not be completed in 3 weeks

- for non-pelagic migratory birds, when rehabilitation will not be completed before the species' migration is undertaken
- for adult native birds from a territorial species (e.g. kookaburra), when rehabilitation will not be completed before their territory is likely to be reoccupied. The average time for this to occur varies between species as well as the time of year.

Note

There is no protection for introduced bird species (e.g. Indian myna) as they are not native. As it is an offence to release them under the BC Act (see Section 2.6 Liberating animals), they must be euthanased if rescued.

5.2 How to euthanase

Objective

To induce death with minimal pain and distress to the native bird.

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 euthanasia 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 native birds 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 birds
 - blunt force trauma to the base of the skull.
- 5.2.4 The following euthanasia methods must not be used on native birds:
 - 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, cervical dislocation 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 NPWS, the Royal Society for the Prevention of Cruelty to Animals (RSPCA) or NSW Police Force.
- 5.2.6 A native bird that requires euthanasia should not be exposed to additional stressors such as large numbers of onlookers, people touching it, loud noises or extremes of temperature.

Notes

For further information on appropriate euthanasia methods refer to:

- Australian Code for the Care and Use of Animals for Scientific Purposes (8th edition, NHMRC 2013).
- Australian Veterinary Association – Policy for Euthanasia of Injured Wildlife.
- 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 native bird that has died from disease or chemical means (e.g. barbiturate overdose) must not be fed to other animals.
- 5.3.3 Porous aviary equipment (e.g. timber) and substrate (e.g. bark chips) must be disposed of carefully i.e. double-bagged or incinerated to reduce the transfer of disease.

Guidelines

- 5.3.4 If the cause of death is uncertain, a deceased native bird should, whenever possible, undergo a necropsy by a veterinarian.
- 5.3.5 Wildlife rehabilitators should make every effort to reduce the risk of contracting zoonoses such as avian influenza, mycobacteriosis (avian tuberculosis), psittacosis salmonellosis, and giardiasis by:
- wearing PPE such as a mask, gloves and gown
 - having vaccinations for tetanus.

- 5.3.6 The Australian Museum should be contacted for all dead species listed in Schedule 1 of the BC Act 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 native bird undergoing rehabilitation.

Standards

- 6.1.1 Rescuers must arrange for the native bird 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.
- 6.1.2 Upon admission the species of native bird must be identified.
- 6.1.3 Upon admission a native bird must be checked for:
 - abnormal behaviours (e.g. walking in a circle, staggering or tipping forward while walking)
 - unusual vocalisations (e.g. screaming in a tawny frogmouth)
 - discharge from the eyes, ceres, mouth or vent
 - bleeding or wounds
 - bone fractures
 - food in the crop
 - body condition via keel bone assessment
 - feather condition (e.g. soiled, matted, damaged or missing feathers)
 - vent condition (e.g. soiled vent indicates the bird has been on the ground for an extended period)
 - wing and leg symmetry
 - a broken beak or beak misalignment
 - rapid breathing or elevated heart rate
 - hydration levels
 - shock and blood loss (e.g. pale or white palate)
 - eye condition e.g. no eye movement, opaque eyes, sunken eyes, blood in the eye
 - internal mouth condition (e.g. colour, smell, oral lesions, throat swelling or obstruction, tongue and choana condition)
 - heat and swelling of the joints
 - missing digits or talons
 - perching ability (e.g. grasping of a biro or pencil)
 - parasites (e.g. ticks, lice or flat flies; throat worm is common in currawongs and magpies)
 - abnormal faeces
 - uncharacteristic smells.

- 6.1.4 All parrots (Psittaciformes) must be checked for PFBD. Symptoms of the disease vary between species but include:
- absence of feather powder (e.g. sulphur-crested cockatoos and galahs can appear dirty)
 - abnormal feather growth (e.g. small, twisted, curled and deformed feathers in sulphur-crested cockatoos, a change in feather colour and blood in feather shafts)
 - tail feathers missing
 - crest feathers missing (e.g. sulphur-crested cockatoos and galahs)
 - wing feathers missing with the primary feathers at the end of the wing most common (e.g. young rainbow lorikeets, known as runners, that are unable to fly)
 - beak changes (e.g. elongated, shiny beak and even fractures in cockatoos and galahs).
- 6.1.5 Hatchlings and nestlings must be assessed by an experienced avian rehabilitator.
- 6.1.6 On admission, a native bird must also be weighed and the stage of development identified.
- 6.1.7 Where no emergency treatment is required, to stabilise and reduce stress, a rescued bird must:
- be left in a warm, dark and quiet place for 30 minutes before assessment
 - be examined with their body supported and their head covered. The head covering must be removed only during the examination of the head, beak, mouth and eyes.
- 6.1.8 Once identified, disease or injury must be managed according to severity and this will generally require veterinary input. Management of native birds in care must always strive for optimal animal welfare. Recognition and management of pain is important.

Guidelines

- 6.1.9 A native bird suspected of suffering from a cat or dog attack should immediately be taken for veterinary assessment.
- 6.1.10 On admission, the native bird's body temperature should be stabilised and the bird rehydrated before attempting to feed it.
- 6.1.11 Medium and large native birds should be assessed by 2 people, one to restrain the bird and one to examine it.
- 6.1.12 Minimum examination of a bird by a veterinarian should include:
- thorough physical examination (under anaesthesia if the bird is stressed)
 - X-ray for birds with suspected trauma (e.g. fractures)
 - examination of eyes with an ophthalmoscope for birds with a suspected eye injury
 - additional tests that may be indicated including blood work, samples from lesions (e.g. oral plaques to check for trichomonas) and faecal examination.
- 6.1.13 All birds being assessed in rooms with windows should have the windows closed and covered to ensure that, if the bird escapes, it will not fly into the glass and sustain further injury.

Notes

- Weighing a bird while it is still in the rescue container and then subtracting the weight of the empty container is a quick technique to obtain weight while reducing the stress of handling a bird.
- Oral lesions can be caused by a variety of infections (e.g. trichomoniasis, candidiasis and salmonellosis) and will require veterinary consultation for an exact diagnosis.

6.2 Monitoring

Objective

To check the health of a native bird undergoing rehabilitation so that 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 native bird must entail:
- visually assessing body condition and demeanour
 - checking for signs of injury, disease and parasites
 - determining food intake levels
 - assessing hydration
 - assessing feather condition and waterproofing
 - for chicks, assessing keel coverage or weight gain over time
 - noting quantity and quality of faeces and urine
 - looking for signs of preening.
- 6.2.2 Immature and adult native birds in intensive care and hatchlings and nestlings must be monitored repeatedly during the day, including food and water intake, and weighed at least twice a week.
- 6.2.3 Self-feeding native birds in intensive care must have their food and water intake monitored and be weighed twice a week.
- 6.2.4 Immature and adult native birds in intermediate care and fledglings and juveniles must be monitored at least once a day and weighed at least once a week.
- 6.2.5 A native bird 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').
- 6.2.6 A hand-reared bird must have its temperature closely monitored and a heat source and humidity provided until it is able to thermoregulate.
- 6.2.7 Wildlife rehabilitators must monitor the ambient temperature within enclosures containing thermal support (e.g. blankets and electric heat mats) to ensure appropriate temperatures are maintained. A thermostat must regulate electrical heat sources.
- 6.2.8 When multiple native birds are in pre-release care, they must be discretely monitored for signs of aggression.
- 6.2.9 Native birds must be weighed before release.

- 6.2.10 Antibiotics must be given only by or under the guidance of a veterinarian and with extreme caution due to the spread of antibiotic resistance and to avoid harm to wild populations.

Guidelines

- 6.2.11 A native bird with botulism should be monitored carefully to ensure their head is elevated and they remain well hydrated.

6.3 Controlling disease transmission between animals

Objective

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

Standards

- 6.3.1 Each newly arrived native bird must be isolated in a separate area until its disease status can be determined by a veterinarian or experienced avian rehabilitator.
- 6.3.2 A native bird suspected or known to be carrying an infectious disease must be kept under strict quarantine conditions (e.g. an individual enclosure in a separate room) throughout its rehabilitation, and wildlife rehabilitators must wear PPE (e.g. gown, mask and gloves).
- signs of disease may include abnormal breath sounds, discharge from eyes, nose or cloaca, or 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 Dedicated cleaning equipment must be used for enclosures housing native birds with a suspected or confirmed infectious disease. This equipment must not be shared.
- 6.3.5 All enclosures, transport containers, enclosure furniture, food and water containers must be thoroughly cleaned and disinfected between each occupant with an appropriate disinfectant which contains both antibacterial and antiviral properties.
- 6.3.6 Wildlife rehabilitators must wash their hands thoroughly with soap or disinfectant before and after handling each bird in care.
- 6.3.7 When handling multiple birds, rehabilitators must start with the healthiest and finish with the sickest to reduce the risks of disease transmission.
- 6.3.8 A bird undergoing rehabilitation must be prevented from coming into contact with domestic pets.
- 6.3.9 Care must be taken not to place a bird with PFBD in timber enclosures. If timber enclosures and equipment are used by a bird with this disease, they must be burnt immediately.

Guidelines

- 6.3.3 Native birds with mosquito-borne disease such as avian pox should be in an insect-proof enclosure to prevent disease transmission.
- 6.3.4 Wildlife rehabilitators should make every effort to reduce the risk of contracting zoonoses such as avian influenza, mycobacteriosis (avian tuberculosis), psittacosis salmonellosis, and giardiasis by:
 - wearing PPE such as a mask, gloves and gown
 - having vaccinations for tetanus.
- 6.3.5 Pest control is recommended for all rehabilitation facilities.

Notes

- If unwell, wildlife rehabilitators should seek medical advice and advise the doctor 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 native bird has a feeding and watering regime that encourages rapid recovery, supports growth in juveniles, and assists with the maintenance of 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 nestlings and hatchlings.
- 7.1.2 Maintenance fluid requirements vary depending on many factors. Careful attention must be paid to the total fluid intake to avoid dehydration, particularly for native birds in intensive care and intermediate care and hand-reared native birds. The amount required will depend on the stage of development, environmental conditions and the presence of illness or injury. For example:
 - nestlings and hatchlings must not have water dishes in their enclosure; instead, they must have a daily fluid intake included in their diet
 - more fluids will be required in hot weather.
- 7.1.3 Food in storage must not be accessible to pets, pests and wild animals and must be protected from contamination (e.g. not dragged across the ground) and nutritional and moisture loss (i.e. browse stored in containers of fresh water for a maximum of 2 days).
- 7.1.4 Food that is available in the wild or that mimics food in the wild (e.g. nectar or insectivore, pollen and nectar substitutes) must form the basis of the native bird's diet.
- 7.1.5 Native birds 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:
 - insectivorous birds require live insects supplemented by a commercial product approved for insectivorous birds
 - hand-reared birds must be fed a diet that is appropriate for the species and stage of development and includes natural food they would find in the wild
 - honeyeaters require native flowers
 - frugivores require native fruits that they pluck from foliage.
- 7.1.6 Care must be taken when using wild caught animals as food for birds in care as it poses a disease and poisoning risk, particularly to compromised animals. Considerations must include:
 - only to be used for native birds in pre-release
 - only use animals with no signs of illness, a good coat, good eyes and no bleeding or discharge from any orifice
 - free from gunshot pellets to avoid lead poisoning
 - not from an area with rat baits present.

- 7.1.7 Birds in pre-release must be transitioned to their natural wild food before release if this has not already been done.

Guidelines

- 7.1.8 The amount of food fed to a native bird should be based on percentage of its body weight and adjusted for growth and weight gain if required.
- 7.1.9 Immature and adult nocturnal native birds should be fed at night (between dusk and dawn).

Notes

- The feeding of live vertebrate prey to an animal is only acceptable under certain circumstances, as set out in the NSW *Prevention of Cruelty to Animals Act 1979*. Rehabilitators are encouraged to contact the Animal Welfare Branch of Industry and Investment NSW for further information.
- Follow the exact measurement directions for hydration products, as modifying the amounts and adding extra product into a solution will hinder rehydration.

7.2 Hygiene

Objective

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

Standards

- 7.2.1 Faeces must be removed:
- daily for all native birds in intermediate and pre-release care
 - after every feed for nestlings and hatchlings
 - every time they are fed or hydrated for native birds unable to move or perch.
- 7.2.2 Faeces must be disposed of so it cannot be consumed by other animals (e.g. in closed garbage or compost bins).
- 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 If bathing water is required, it must be in a separate area from drinking water and changed daily or when soiled.
- 7.2.5 Enclosure furniture, bedding and weighing bags must be cleaned when soiled.
- 7.2.6 Weighing equipment must be cleaned and disinfected between each native bird.
- 7.2.7 Enclosures and transport containers must be disinfected and rinsed for each new native bird.
- 7.2.8 Non-fixed perches must be kept clean and replaced between each occupant, while permanent perches must be kept clean and disinfected and rinsed between each occupant.
- 7.2.9 Bird shelters (e.g. penguin box) must be kept clean and either replaced between each occupant or disinfected and rinsed between each occupant.
- 7.2.10 A native bird must be cleaned when soiled with faeces, urine or uneaten food.

- 7.2.11 Wildlife rehabilitators must minimise the disturbance to the native birds 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 native bird must be discarded.
- 7.2.13 Wildlife rehabilitators must wash their hands and clean all food preparation surfaces and equipment before preparing native bird food.

Guidelines

- 7.2.14 Equipment used for cleaning animal enclosures, containers and furniture should be separate from those used domestically.
- 7.2.15 Pelagic species are very susceptible to aspergillosis as they have no natural immunity. Providing preventative medication with itraconazole should be implemented as soon as possible and is recommended during the intensive care phase of treatment.

Notes

Aspergillosis is a fungal infection that occurs from mould spores. The best prevention for birds undergoing rehabilitation is to minimise dust and moisture build-up in enclosures by providing adequate ventilation, frequent cleaning and using a substrate that does not harbour mould.

7.3 General care

Objective

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

Guidelines

- 7.3.1 The buddying of hand-reared native birds based on species, weight and stage of development is recommended for the development of natural behaviours and to minimise stress. Wildlife rehabilitation providers should liaise with other providers to facilitate buddying.
- 7.3.2 All husbandry requirements must be covered in training specific to native bird rehabilitation (see Section 11 'Training').
- 7.3.3 Each bird should have a husbandry plan.
- 7.3.4 Birds are very prone to habituation and imprinting. All care should be taken to minimise social interactions with humans, and natural behaviours should be allowed to develop.

8. Housing

8.1 General requirements

Objective

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

Standards

- 8.1.1 Enclosures must be at least the size specified in Appendix 2 for the species and stage of rehabilitation.
- 8.1.2 Enclosures must be escape-proof. For example, parrots and cockatoos (Psittaciformes) must not be placed in a cardboard box.
- 8.1.3 Housing must be made safe for a native bird to live in by excluding hazards that might harm it. For example:
 - chicken wire must not be used in enclosures as it can cause severe beak and feather damage
 - the aviary mesh gauge must be small enough to exclude predators
 - new galvanised wire must be weathered for 6 to 8 weeks or washed with a mild acidic solution (such as half water, half vinegar) as it is toxic (risk of zinc poisoning), especially for parrots
 - a heat source must be shielded to prevent burns
 - designed and positioned to protect the native bird from extremes of temperature
 - enclosures for seabirds, waders and waterbirds must be lined to prevent beak and feather damage.
- 8.1.4 Housing must be designed and positioned:
 - to protect the native bird from pests and physical contact with wild animals.
 - so, the bird cannot see domestic pets
 - so, rehabilitators can readily access the native bird.
- 8.1.5 Once a nestling is perching it must have access to aviaries that allow free flight, to encourage normal development.
- 8.1.6 Housing must be positioned so the native bird is not exposed to strong vibrations (e.g. not near household appliances such as washing machines), noxious smells (e.g. wood smoke) or loud noises (e.g. radios and televisions, vehicles and barking dogs).
- 8.1.7 Smaller non-aviary cages must be 0.7 metres off the ground.
- 8.1.8 Housing must be constructed from non-toxic materials that can be easily cleaned and disinfected.
- 8.1.9 If multiple native birds of the same species are kept within a single enclosure, there must be sufficient space for individuals to avoid undue conflict and stress with each other, and they must be monitored for signs of aggressive interactions. For example:

- adult males must not be placed together in breeding season (excluding pelicans)
 - territorial species such as wattlebirds, figbirds and kookaburras must be monitored closely as they are more prone to aggression than social flock species such as lorikeets, noisy miners and galahs.
- 8.1.10 If bathing water is required, it must be in a separate area from drinking water and changed daily or when soiled.
- 8.1.11 Native birds 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.
- 8.1.12 Substrate must be a soft, non-slip material that can be changed easily, e.g. sand, leaf litter, artificial turf or towels. Straw, hay, shredded paper, grass clippings or sawdust must not be used as it can lead to infection.

Guidelines

- 8.1.13 Native birds should not be kept in enclosures with exposed wire as it can cause feather damage; instead enclosures should be lined with shade cloth unless they are being used to house parrots (see Standard 8.1.17).
- 8.1.14 Parrots should be housed in enclosures with heavy-duty weathered, galvanised or stainless-steel wire mesh which they cannot chew through, and which is less likely to damage feathers.
- 8.1.15 Enclosures listed for each stage of rehabilitation (see Appendix 2) are suitable for an average-sized adult. Smaller individuals may not require the space specified and larger individuals may require more space, so the number of birds listed for pre-release enclosures in Appendix 2 is a guideline.

Notes

- The failure to recognise domestic pet species as predators will preclude rehabilitated native birds from being released into the wild.
- There are both local council and NSW Government legislation regarding aviaries. Refer to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

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 native bird is stabilised.

Standards

- 8.2.1 Intensive care housing must provide sufficient space for the native bird to maintain normal posture. This would include allowing the bird to stand fully erect or lie fully extended across the enclosure but not enough space to run, jump or fly. For example:
- a bird must be able to stretch one wing at a time, but not both as it may attempt to fly and further injure itself
 - the bird's head and tail must not touch the roof or floor while perching or standing.
- 8.2.2 Intensive care housing must provide a constant temperature appropriate to the native bird's species, age and the nature of its illness or injury.
- 8.2.3 The temperature in intensive care housing must be regularly monitored using a thermometer.
- 8.2.4 Electrical heat sources must be regulated by a thermostat.
- 8.2.5 A bird in intensive care housing, for more than 24 hours, must experience a light–dark cycle that replicates outside conditions. If an artificial light source is used, it must be separate from any artificial heating.
- 8.2.6 Intensive care housing must be designed and positioned so that visual and auditory stimuli are reduced (e.g. by covering with a natural fibre towel and placing in a quiet room).
- 8.2.7 Intensive care housing must be adequately ventilated without allowing excessive draughts.
- 8.2.8 Intensive care housing must be kept at an ambient temperature which is appropriate for the age of development of the native bird, for example:
- 28°C is appropriate for adult birds
 - 30–35° C is appropriate for precocial nestlings
 - ducklings and small waterbirds need warm temperature
 - 26°C is appropriate for penguins who have poor thermoregulation and can easily overheat.
- 8.2.9 A native bird unable to perch must be supported with a tightly rolled-up U-shaped towel with no loose threads and requires extra padding (e.g. rubber or foam matting).

Guidelines

- 8.2.10 Substrate used in intensive care housing should be replaced as required. Disturbance to birds in care and the risk of increasing stress levels should be considered when deciding the frequency of substrate change. For example:
- changing the substrate at the same time as handling the native bird for treatment and feeding
 - species that are easily stressed such as kingfishers (Alcedinidae), nightjars (Caprimulgiformes) require their substrate changed daily
 - ducks, swans and geese (Anatidae) require their substrate changed twice daily
 - any bird with botulism or that is unable to move or perch requires the substrate changed at least three times a day
 - seabirds require their substrate changed at least three times a day.

8.3 Intermediate care housing

Objective

To provide a mobile native bird 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 native bird to move about freely while being conveniently sized for capture.
- 8.3.2 If an artificial heat source is provided, the native bird must be able to move to a cooler section of the enclosure. Electrical heat sources must be regulated by a thermostat.
- 8.3.3 Native birds in intermediate care housing must experience a light–dark cycle that replicates outside conditions. This may be achieved by placing the enclosure in a well-lit room or in a sheltered area outside.
- 8.3.4 Intermediate housing must contain habitat elements that enable the native bird to perform a range of natural behaviours. For example, housing should contain:
 - an area providing natural foliage protection the native bird can retreat to, in order to avoid observation
 - a perching bird must be provided with multiple perches that are high enough for its tail feathers to clear the substrate
 - a waterbird and seabird must be provided with a pool of clean water deep enough for swimming without scraping their feet on the bottom and a dry area covered with a soft substrate
 - a seabird that naturally basks must be provided with lighting appropriate to the needs of the species (e.g. sunshine outside or ultraviolet light)
 - nightjars (Caprimulgidae) and owlet-nightjars (Aegothelidae) need a nest box or hollow log
 - quails require sticks on the ground for nest building or to hide behind.
- 8.3.5 A variety of wooden perches must be provided to allow the native bird to find a comfortable position and minimise the risks of pressure sores (bumblefoot). The perches must be:
 - covered in artificial turf, rope, coconut-fibre matting or a similar soft covering that will not retain moisture. If limbs or trunks of native paperbark or rough barked trees are used as perches, they do not require covering
 - a diameter that prevents the bird from piercing its own foot
 - small enough to allow a comfortable grip (e.g. frogmouths [Podargidae spp.], which perch sideways, need a wider branch)
 - attached securely
 - both fixed and hanging so the native bird can practice keeping its balance on a moving perch.

- 8.3.6 Intermediate housing must provide birds that cannot fly with a series of perches and ramps to assist them to move to higher positions in the aviary.
- 8.3.7 Intermediate housing outside needs to be sheltered from prevailing weather conditions such as rain, wind and sun.
- 8.3.8 Substrate used in intermediate housing must be absorbent and easily cleaned or replaceable. Particle substrate (e.g. straw, cat litter, wood shavings, or sawdust) must not be used.

Guidelines

- 8.3.9 Hand-reared fledglings and immature native birds of social species should be exposed to members of the same species or family during the intermediate care stage. If there is not a big enough aviary this should be achieved by placing the birds in separate cages side by side.

8.4 Pre-release housing

Objective

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

Standards

- 8.4.1 Pre-release housing must provide sufficient space for the native bird to move about freely and express a range of natural behaviours.
- 8.4.2 Pre-release housing must provide areas where the native bird 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 native bird to perform a range of natural behaviours. For example:
 - perching birds require a variety of perches designed to suit the size and habits of the species being housed (e.g. limb-perching and ledge-perching birds). See Standard 8.3.4. for details
 - waterbirds require a pool of clean water deep enough for swimming without scraping their feet on the bottom and a dry area covered with a soft substrate
 - small waterbirds (e.g. grebes) require a pool of clean water deep enough for swimming without scraping their feet on the bottom as well as water plants and reeds to enable them to hide and forage for food naturally
 - seabirds require two pools with clean water, one to enable them to catch their food and another deep enough for swimming without scraping their feet on the bottom
 - pelicans and herons require partially submerged logs in the pool to sit with their tail feathers out of the water
 - cormorants need a floating platform for sunning
 - carnivorous and insectivorous birds require dirt, logs and leaf litter for foraging
 - smaller birds (Passeriformes) require foliage at different heights to weave in and out

- tawny frogmouths require thick sticks and logs so they can imitate dead branches for camouflage
 - parrots and cockatoos (Psittaciformes) require grasses, seeds, casuarina and eucalypt branches with nuts for foraging.
 - honeyeaters (Meliphagidae) need foliage with native flowers
 - nightjars (Caprimulgidae and Aegothelidae) need logs and hollows
 - ground-dwelling birds (e.g. penguins, shearwaters and petrels) need ground cover (e.g. artificial burrows) to hide in
 - penguins require ramps and rocks as they often nest in burrows that are located at the top of steep terrains.
- 8.4.4 Pre-release housing must be designed and positioned so that exposure to humans is kept to the minimum required for monitoring, feeding and cleaning.
- 8.4.5 Substrate in pre-release housing must be easily cleanable and suitable for the species' requirements. For example:
- a layer of blue-metal aggregate covered by washed river sand allows for good drainage
 - concrete must be avoided or covered with another soft substrate as it can cause infections such as bumblefoot
 - pelagic birds and waterbirds require a soft substrate such as rubber to assist with frequent cleaning and to prevent bumblefoot
 - penguins and pelicans require sand which is raked every morning or rubber matting
 - sand must be closely monitored for contaminants and replaced regularly.

Guidelines

- 8.4.6 Birds in pre-release housing should have some opportunity for flight. This may not be feasible for a larger seabird (e.g. albatross species, pelican) or a large swan, however, it should have enough space to flap its wings.
- 8.4.7 Pre-release housing for birds capable of flight should have a double-door entry system.
- 8.4.8 Pools provided for seabirds should be saltwater. If the pool is freshwater, then seabirds in long-term care should be provided with salt supplements.
- 8.4.9 Pre-release enclosures should have the following dimensions:
- small passerines: 1.5 metres long by 1.8 metres wide by 2 metres high
 - medium passerines: 1.8 metres long by 1.8 metres wide by 2 metres high
 - tawny frogmouth: 5 metres long by 2 metres wide by 2 metres high
 - small parrots: 2 metres long by 2 metres wide by 2 metres high.
- 8.4.10 Substrate made from leaf litter and grasses should be replaced frequently to reduce the risk of mould.
- 8.1.11 Pre-release housing should be positioned to receive sunlight in winter and shade in summer.

Note

If sand is used as a substrate, care must be taken to ensure it remains clean and free of contaminants.

9. Suitability for release

9.1 Preparations for release

Objective

To ensure the native bird 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 native bird 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. flies, jumps, runs normally)
 - its weight and body condition are within the appropriate range for the species, stage of development and sex
 - it has appropriate fitness levels as determined by observation
 - its plumage and skin are adequate for survival in its natural habitat (i.e. waterbirds have waterproof feathers)
 - it has acclimatised to prevailing climatic conditions
 - it exhibits salt tolerance (pelagic seabird species only)
 - if hand-reared, it has reached the age of dispersal (i.e. it is immature – see Appendix 1).
- 9.1.2 A native bird must not be released until it is behaviourally ready. This status has been achieved when:
- it can recognise, catch and consume appropriate, naturally available food (e.g. hand-reared native birds must be self-feeding)
 - it can recognise and avoid predators, including pets (i.e. it has not been allowed to associate with domestic animals 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 habituated or imprinted)
 - it can navigate effectively through its natural environment
 - it can recognise and interact normally with members of its own species.
- 9.1.3 A bird's readiness for release must be confirmed by an experienced avian rehabilitator.
- 9.1.4 A bird's readiness for release must be determined in consultation with the local NPWS Area Office or a veterinarian experienced in avian care for the following species:
- albatross (Diomedidae)
 - frigatebird (Fregatidae)
 - white-throated needletail
 - regent honeyeater

- swift parrot
- bush stone-curlew
- beach stone-curlew
- eastern hooded dotterel (hooded plover)
- native bird from an endangered population (see Schedule 1 of the BC Act).

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 native bird 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 native bird 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 native bird must be released when weather conditions encourage high activity levels. Release during extremes of temperature and storms must be avoided.
- 10.1.3 A native bird must be released at a time of day that enables it to immediately investigate its environment. The optimal release time for most diurnal birds is approximately one hour after dawn, for most nocturnal birds approximately one hour after dark and for crepuscular (most active during twilight hours) birds (e.g. tawny frogmouth, spotted nightjar) at dusk.

Guidelines

- 10.1.4 A native bird should be released at a time of year that facilitates survival and reintegration into the wild population. For example:
 - for sexually immature native birds, release must occur before sexual maturity, and when they would naturally disperse
 - insectivorous species should be released during periods of high insect abundance (e.g. spring and summer)
 - migratory species should be released at least two weeks before their typical departure period
 - territorial species may have occupied a territory before coming into care. Such species should be released before their territory is likely to be reoccupied. The average time for this to occur varies between species as well as the time of year.
- 10.1.5 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). Such species should be released before this occurs. The average time for this to occur varies between species.

10.2 Release site selection

Objective

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

Standards

- 10.2.1 If the exact location where the native bird was found is known and it has been assessed as a suitable environment for release, it must be released there. The exception is hand-reared native birds (See Standard 10.2.3.).
- 10.2.2 A suitable environment for release is one that:
- contains appropriate habitat and adequate food resources
 - is occupied by members of the same species (except for territorial species, see 10.2.9)
 - is within the natural range of the species
 - does not place the animal at a high risk of injury (e.g. not near a busy road, an off-leash dog area or a busy boat ramp)
 - has infrastructure for post-release support for birds if required (see 10.3 'Release techniques').
- 10.2.3 If the location where the native bird was found is assessed as an unsuitable environment for release, the native bird 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 or further than it would normally move. For example:
- migratory birds may move across eastern Australia
 - seabirds may move along the east coast of Australia, with currents playing an important role in the successful dispersal of some species
 - some birds do not move further than one kilometre, such as wrens, butcherbirds and tawny frogmouths
 - magpies move up to 100 kilometres from their original location
 - nomadic birds (e.g. figbirds) follow food sources
 - hand-reared native birds, buddied during rehabilitation, can be released together even when they are from different rescue locations.
- 10.2.4 If only the general location where the native bird was found is known, and it contains or adjoins a suitable environment for release, the native bird 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 In cases where there is no suitable release site, the wildlife rehabilitation provider must:
- consider euthanasia (see Section 5 'Euthanasia')
 - contact the Wildlife Team (wildlife.licensing@environment.nsw.gov.au) and apply for permanent care
 - notify NPWS to arrange placement with an authorised animal exhibitor licensed by DPI.
- 10.2.6 A native bird can only be released in a park if:
- it was originally encountered in that location
 - written consent for the release has been obtained from the relevant NPWS Area Manager (issued under s.11 of the National Parks and Wildlife Regulation 2019)
 - the release complies with the relevant Department of Planning, Industry and Environment policies on translocation.

10.2.7 These conditions also apply to the release of a native bird 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 Wildlife rehabilitators must consider the capacity for the release site habitat to support the native bird being released. For example:

- impact on social structure of native birds already present (e.g. do not release an adult native bird when another adult pair is present for territorial species such as a magpie, kookaburra or butcherbird)
- impact on other species present such as nesting birds
- availability of resources (e.g. food and water).

Guidelines

10.2.9 A native bird should be released in an area that is connected to other suitable habitat.

10.2.10 Birds can travel over a wide range of distances. Consultation with a specialist in the lifecycle and territory of that species will assist in identifying a suitable release site.

Note

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

Standards

10.3.1 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:

- no more than 30 native birds per site each year
- no more than six magpies per site in urban areas each year
- release numbers must be reduced in times of drought or after bushfires due to reduced habitat capacity.

10.3.2 If a native bird has been hand-reared with a buddy, they must be released together.

Guidelines

Hand-reared native birds from social species (e.g. noisy minors, cockatoos, lorikeets, galahs, corellas) should be released with members of the same species.

- 10.3.3 Hand-reared native birds that have been in care for extended periods of time, or adult native birds being released back into recovering firegrounds, should be provided with temporary post-release support ('soft' release). This may include supplementary feeding, shelter provision, or protection from predators and extreme weather.
- 10.3.4 A hatchling and nestling taken into care for a short time frame (e.g. 2 to 3 days), with the parents and location known, should be released to the same location when able to perch unaided and discreetly monitored to ensure it is being fed by the parents again.
- 10.3.5 Shearwaters and prions migrating north should be released from a windy elevated position that is dark, to limit disorientation from light pollution on the coastline.
- 10.3.6 A hand-reared kookaburra, magpie or chough, once it is able to fly (juvenile) may be released by allowing a local family group of the same species to adopt it after they have been observed bringing food to the juvenile.
- 10.3.7 Wildlife rehabilitators should arrange for native birds to be banded, micro-chipped 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*.
- Banding birds requires an authority issued by the Australian Bird and Bat Banding Scheme.

11. Training

11.1 Requirements

Objective

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

Standards

- 11.1.1 New wildlife rehabilitators must undertake an introductory training course.
- 11.1.2 Before undertaking native bird rehabilitation, a person must undertake specialist training.
- 11.1.3 A specialist training course must:
 - teach the standards and guidelines described in this code
 - focus on what a person will be able to do as a result of completing the course (i.e. be competency-based)
 - teach health and safety issues associated with native bird rehabilitation (e.g. disease transmission and operating in hazardous locations)
 - have a written assessment component
 - teach how to keep accurate records.
- 11.1.4 Wildlife rehabilitators must be assessed as competent in the relevant areas before undertaking rescue, rehabilitation or release of native birds.
- 11.1.5 Training must be accompanied by ongoing in-field support from experienced native bird rehabilitators.
- 11.1.6 All wildlife rehabilitators must undertake professional development and refresh their training for native birds every three years, e.g. refresher or advanced training course, attendance at native bird conferences or seminars.

Guidelines

- 11.1.7 Wildlife rehabilitators should have an understanding of:
 - the objectives of native bird rehabilitation
 - wildlife ecology (e.g. population dynamics, habitat selection, competition, and predator–prey interactions)
 - bird behaviour (e.g. feeding, predator avoidance, age appropriate behaviour and social interactions)
 - migratory and nomadic behaviours.
- 11.1.8 Wildlife rehabilitators should be proficient in:
 - species identification
 - native bird handling techniques
 - first aid for injured native birds
 - recognising the signs of disease, pain and stress
 - animal husbandry

- native bird anatomy and physiology.

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

Note

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

12. Record keeping

12.1 Keeping a register

Objective

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

Standards

12.1.1 Licensed wildlife rehabilitation providers, zoological parks and individuals must maintain a current register of all protected native birds 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 and initial weight)
- care providers details (name and address of the initial assessor, name and address of the native bird 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 native bird in their care so changes can be identified quickly (weighing frequency will depend on the type of care provided; see Section 6.2 'Monitoring').

12.1.3 When a native bird 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 native bird 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 native bird (name and contact details)
- when the native bird 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 avian rehabilitator:

- details of wounds, injuries, diseases and external parasites
- 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 native bird 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 native birds 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 native bird was alive or dead.
- 12.1.12 Wildlife rehabilitators should record the following information for dead native birds:
- cause of death
 - necropsy notes
 - disease testing and DNA testing results
 - records of care of previous rehabilitation.
- 12.1.13 If the injury or death of a native bird is suspected to be the result of animal cruelty (e.g. premeditated poisoning or shooting), the RSPCA should be contacted.

13. More information

- [Animal carcass disposal](#)
- [Animal Research Act 1985](#)
- [Animal Welfare Branch of Industry and Investment NSW](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian Code for the Care and Use of Animals for Scientific Purposes](#)
- [Avian influenza](#)
- [Avian pox](#)
- [Beach-nesting birds: Share the shore](#)
- [Biodiversity Conservation Act 2016](#)
- [Biodiversity Conservation Act 2016 Schedule 1](#)
- [Biodiversity Conservation Act 2016 Schedule 5](#)
- [Biodiversity Conservation Act 2016 section 2.14 \(4\)](#)
- [Biodiversity Conservation Act 2016 Section 2.6 Liberating animals](#)
- [Code of Practice for Injured, Sick and Orphaned Birds of Prey](#)
- [DPI Emergency Animal Disease Hotline](#)
- [Environment Protection and Biodiversity Conservation Act 1999](#)
- [EPBC Act List of Threatened Fauna](#)
- [Euthanasia of Injured Wildlife](#)
- [Firearms Act 1996](#)
- [Fisheries Management Act 1994](#)
- [Giardiasis](#)
- [Local Government Act 1993](#)
- [Managing Interactions with Fauna that may Impact on the Community](#)
- [Management of native birds that show aggression to people](#)
- [Mycobacteriosis \(avian tuberculosis\)](#)
- [National Parks and Wildlife Act 1974](#)
- [National Parks and Wildlife Regulation 2019](#)
- [National Parks and Wildlife Service](#)
- [NSW BioNet](#)
- [Poisons and Therapeutic Goods Act 1966](#)
- [Practise simple hygiene by washing hands regularly](#)
- [Prevention of Cruelty to Animals Act 1979](#)
- [Psittacine beak and feather disease \(Pbfd\)](#)
- [Psittacosis](#)
- [Rehabilitation of Protected Native Animals Policy](#)
- [State Environmental Planning Policy \(Exempt and Complying Development Codes\) 2008](#)
- [Translocation operational policy](#)
- [Trichomoniasis](#)
- [Veterinary Practice Act 2003](#)

- Zoonoses

14. Further reading

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

Menkhorst P, Rogers D, Clarke R, Davies J, (Illustrator), Marsack P (Illustrator) & Franklin K (Illustrator) 2017, *The Australian Bird Guide*, CSIRO Publishing, Clayton South, Victoria, Australia.

Samour J (Ed.) 2016, *Avian Medicine*, Third Edition, Elsevier Ltd, St Louis Missouri, USA.

Lovette I & Fitzpatrick J (Eds) 2016, *Cornell Lab of Ornithology Handbook of Bird Biology*, Third edition, Wiley Blackwell, Hoboken, New Jersey, USA.

Fowler A 2019, *Husbandry and Diseases of Native Birds*, Fourth edition, FaunaOz Education, <https://faunaozeducation.com.au/collections/birds/products/husbandry-diseases-of-native-birds-4th-edition-2019-dr-anne-fowler>.

Fowler A 2018, *Husbandry and Diseases of Orphaned Wild Birds*, Second edition, FaunaOz Education, <https://faunaozeducation.com.au/collections/birds/products/husbandry-diseases-of-orphaned-wild-birds-2nd-edition-2018-dr-anne-fowler>.

Appendices

Appendix 1: Stage of development for native birds

Stage	Details
Egg	Roundish-shaped reproductive body produced by a female bird
Hatchling	Young bird that has recently emerged from the egg. It is considered a hatchling until its eyes open
Nestling	Young bird that remains in the nest and its eyes are open
Branchling	Young bird that can stand on the edge of the nest and hop onto nearby branches
Fledgling	Young bird that has attempted or completed its first flight but still returns to the nest or remains in close proximity to the nest
Juvenile	Bird that has never completed a moult of its feathers
Immature	Bird that has completed its first feather moult and has not reached sexual maturity
Adult	A bird that has reached sexual maturity and is fully feathered with its adult plumage

Appendix 2: Minimum enclosure size standards

Type of bird (examples)	Intensive care L x W (m)	Intermediate care L x W (m)	Pre-release care L x W x H (m)	No. of animals in pre-release (guideline)
Passerines				
Small passerine (e.g. finch, wren, pardalote, spinebill)	0.3 x 0.2	0.6 x 0.45	1.5 x 1.5 x 1.8	8
Medium passerine (e.g. wattle bird, friar bird, bowerbird, crested pigeon)	0.5 x 0.5	1 x 1 x 1	1.8 x 1.8 x 1.8	4
Large passerine (e.g. magpie, currawong, topknot pigeon, kookaburra)	0.7 x 0.5	1.5 x 1 x 1	3 x 3 x 2	4
Tawny frogmouth	0.7 x 0.5	1.5 x 1 x 1	5 x 1.5 x 2	4
Parrots and cockatoos				
Small parrot (e.g. lorikeet, grass parrot)	0.5 x 0.5	0.7 x 0.7 x 1	2 x 1.8 x 1.8	8
Medium parrot (e.g. king parrot, galah, corella)	0.75 x 0.5	1.5 x 1 x 1	5 x 2 x 2	4
Large parrot (e.g. cockatoo)	1 x 1	1.5 x 1 x 1	5 x 3 x 2	4
Seabirds, waterbirds				
Small wader (e.g. crane, rail), small gull, tern)	0.4 x 0.4	1 x 1 x 1	3 x 2 x 2	8
Medium wader, large gull, cormorant, large tern, duck	0.7 x 0.7	1.5 x 1.5	4 x 2 x 2	2
Large seabird, waterbird (e.g. pelican, swan, pelagic seabird)	1.2 x 1.2	2 x 2 x 2	5 x 3 x 2	1
Large birds				
Brush turkey, lyre bird, emu chick	0.7 x 0.4	2 x 2 x 2	5 x 3 x 2	2
Adult emu	1.5 x 0.7	5 x 5 x 2	10 x 10 x 2	2

Note: L is length, W is width and H is height