Charles Darwin University Animal Ethics Committee

Standard Operating Procedure:

First Aid for Animals (WA DBCA)

Version No:	1.2
Date of Approval by the CDU AEC:	19/07/2023
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Please note: this SOP has been developed for animal use in WA. Consideration should be taken to the specific conditions of the region in which your work is being conducted, and modifications to procedures made accordingly to ensure the best welfare of the animal and safety of the project participants. Any modifications required should be outlined in the project application. Consideration should particularly be given to the weather conditions of the Northern Territory and the presence of extreme hazards such as crocodiles.

CHARLES DARWIN UNIVERSITY AUSTRALIA

Standard Operating Procedure

SC23-08 FIRST AID FOR ANIMALS

Animal welfare is the responsibility of all personnel involved in the care and use of animals for scientific purposes.

Personnel involved in an Animal Ethics Committee approved project should read and understand their obligations under the *Australian code for the care and use of animals for scientific purposes*.

Version 1.2

June 2023

GOVERNMENT OF WESTERN AUSTRALIA

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Revision History Log

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1.1	16/05/2017	Minor revision, updated advice for oiled wildlife.	G. Yeatman, K. Onton, C. Holyoake, and M. Page	M. Page	August 2017
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Approved by the DBCA Animal Ethics Committee:

Dr Martin Dziminski
Chair, Animal Ethics Committee
Department of Biodiversity, Conservation and Attractions

Contents

1 Purpose

Working with wildlife may result in the requirement to administer first aid to fauna.

All human interference will be stressful on an animal. The behaviour and responses likely from the animal, is dependent on species, sex, age, temperament and size. Additionally, the distance and time it may take to reach veterinary care, needs to be taken into consideration on the administration of first aid, and decisions regarding subsequent courses of action.

The aim of administering first aid is to prevent suffering and, where practical and humane, preserve life.

This standard operating procedure (SOP) aims to assist in the assessment and treatment of wildlife requiring first aid to ensure the best care available is administered.

2 Scope

This SOP has been written specifically for scientific and education purposes, and endorsed by the Department of Biodiversity, Conservation and Attractions' (DBCA) Animal Ethics Committee (AEC). However, this SOP may also be appropriate for other situations.

This SOP applies to all fauna survey and monitoring activities undertaken across Western Australia by DBCA (hereafter department) personnel. It may also be used to guide fauna related activities undertaken by Natural Resource Management groups, consultants, researchers and any other individuals or organisations. All department personnel involved in fauna research and management, should be familiar with the content of this document.

When an animal is taken into care, the advice contained in Department of Biodiversity, Conservation and Attractions (2019) Draft Code of Practice for Wildlife Rehabilitation in Western Australia should be consulted. Rehabilitators must comply with the requirements of Regulation 35 of the Biodiversity Conservation Regulations 2018. For any animal requiring euthanasia the advice contained in the department SOP for *Euthanasia of Animals Under Field Conditions* should be reviewed and followed.

Projects involving wildlife may require a licence/authorisation under the *Biodiversity Conservation Act 2016*. Personnel should consult the department's Wildlife Licensing Section and Animal Ethics Committee Executive Officer for further guidance. In Western Australia any person using animals for scientific purposes must also be covered by a licence issued under the *Animal Welfare Act 2002*, which is administered by the Department of Primary Industries and Regional Development. This SOP complements the *Australian code of practice for the care and use of animals for scientific purposes* (The Code). The Code contains an introduction to the ethical use of animals in wildlife studies and should be referred to for all AEC approved projects. A copy of the code may be viewed by visiting the National Health and Medical Research Council website (http://www.nhmrc.gov.au).

3 Animal Welfare Considerations

To reduce the impact of the administration of first aid on the welfare of animals, personnel must consider, address and plan for the range of welfare impacts that may be encountered. Strategies to reduce impacts should be identified during the planning stage to ensure that they can be readily implemented during first aid administration and contingencies for managing welfare issues have been identified. Ensure that all handlers and volunteers involved in the project are aware of the

range of issues that they may encounter, the options that are available for reducing impacts, improving animal welfare, and the process for managing adverse events.

Department projects involving animal handling, will require approval from the Department's Animal Ethics Committee.

Key animal welfare considerations, that should be considered when administering first aid to animals, are listed below and highlighted throughout the document.

If the need for first aid is the result of AEC-approved field work, or wildlife management undertaken during department activities, then it is essential to consider the possible causes and take action to prevent further issues. Adhering to the guidance in this SOP will assist in minimising the likelihood of adverse events. For projects approved by the department's Animal Ethics Committee, adverse events must be reported in writing to the AEC Executive Officer as soon as possible, after the event by completing an *Adverse Events Form*. Guidance on field euthanasia procedures is described in the department SOP for *Euthanasia of Animals Under Field Conditions*. Where an infectious disease is suspected, refer to the department SOP for *Managing Disease Risk and Biosecurity in Wildlife Management* for further guidance.

4 Procedure Outline

4.1 First aid and expert care

First aid refers to the initial administration of care for sick or injured wildlife, until more expert attention and/or advice can be sought. Any person who is involved in AEC-approved field work or wildlife management undertaken during department activities, should have the competency to provide first aid to wildlife commensurate with the risk of the activities they are undertaking.

Following first aid, it may be necessary to seek expert care involving veterinary personnel and/or rehabilitators. Under the *Biodiversity Conservation Regulations 2018* ('Regulations'), the following personnel are authorised to receive sick and injured wildlife:

- Veterinarians.
- Licensed wildlife rehabilitators.
- DBCA wildlife officers.

Note that, certain species are considered "specialist" fauna under the Regulations and must only be cared for by rehabilitators with an advanced licence. This includes all threatened and specially protected species, venomous reptiles, marine turtles, penguins, birds of prey, seabirds, cetaceans, pinnipeds, dugongs and bats.

4.2 Decision making framework

Animals requiring first aid may be encountered in a variety of situations, however the same steps and decisions are required to assess the situation and determine the best course of action (Figure 1).

Triage is the process of prioritising patients, based on the severity of their condition. For an individual wildlife specimen, 'triage' has come to refer to the process of assessment and decision-making based on the individual's welfare and likely survival (Mullineaux et al., 2016).

The **four triage categories** are:

Priority 1: healthy or non-life-threatening minor ailment; likely to survive.

Priority 2: compromised welfare or significant illness/injury; less likely to survive.

Priority 3: poor chance of survival; unreasonable suffering or incurable condition; requires euthanasia.

Priority 4: confirmed dead.

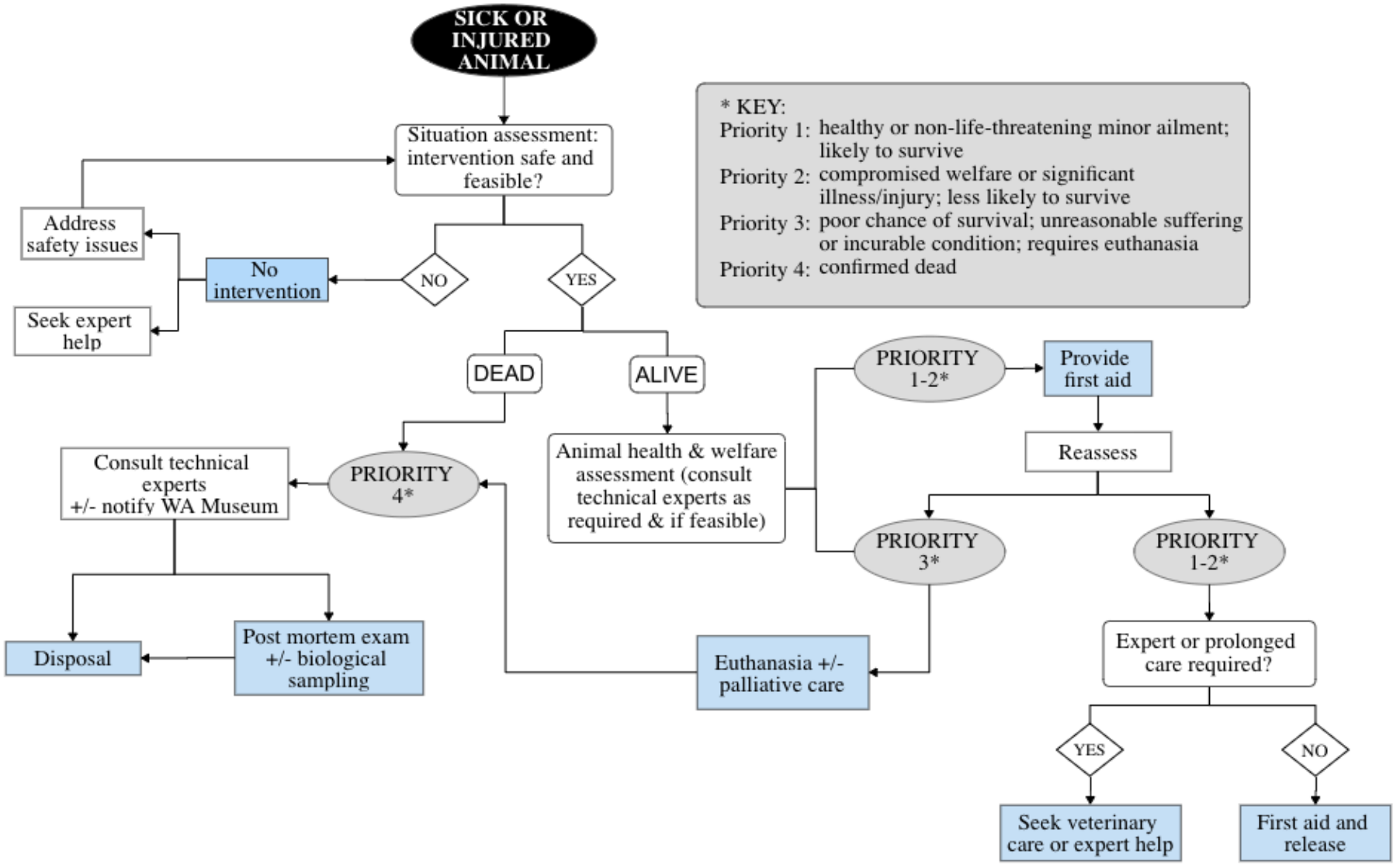

Figure 1 Flowchart indicating the decision-making process for sick and injured fauna

4.3 Situation assessment

4.3.1 Human safety

Assess the immediate threat to yourself and the animal. Decide if it is safe to approach, take action to minimise or remove any hazards to your own safety, and the safety of the animal. This might involve switching on vehicle hazard lights to warn traffic of an incident on the road, or keeping birds and other animals away, which may be harassing the injured animal.

Consider the safety implications of handling the animal, and do not proceed if these cannot be addressed. Special considerations should be given to venomous animals, the risk of exposure to zoonotic disease, and risks of physical injury in approaching or handling wildlife. Do not try to handle an animal if there is a chance you will be at risk.

Assess the situation and have a clear strategy which is communicated to other personnel if they are present. If capture and handling is necessary, gather appropriate equipment before approaching the animal. It is helpful to prepare for first aid eventualities, by having species-appropriate transport containers available (e.g., cardboard boxes, pouches, plastic tubs) and towels or handling bags (see 5.4).

4.3.2 Initial evaluation and approach

From a safe distance, observe the animal for signs of injury or illness and abnormal behaviour (Table 1). Assess if the animal is dead or alive. Refer to the department SOP *Euthanasia of animals under field conditions,* for criteria which can be used to confirm death.

Always approach with care. Cornered wildlife may try to escape or attack. Macropods can lash out with their powerful back legs, even if severely injured. When handling the animal for a closer assessment, safely confine it in a manner that is appropriate to the species (e.g., wrap it in a towel, cover its eyes and/or place it in a cardboard box or handling bag). Ensure the animal can breathe (clear airways and nostrils, and do not constrict the chest). Initial handling should be brief, and aimed at containing the animal in a quick, quiet, and gentle manner.

If you are unsure about handling the animal, or unable to handle it safely, seek expert advice or assistance. Refer to the department SOPs *Hand Capture of Wildlife* and *Hand Restraint of Wildlife* for advice on hand capture techniques for different taxa.

Table 1 Guide to the initial observations that can be made when assessing sick/injured wildlife (adapted from Morgan, 2008)

Observation	Assessment
Body symmetry	Are there any obviously damaged or misshapen body parts?
Mental status	Is the animal bright, alert, and responsive or is it quiet and dull?
Posture	Is the animal standing or up in its normal posture, or is it lying down? Is it balancing normally, or it is using another part of its body to help it balance?
Gait	If the animal can move, is it moving as it should?
Respiration	Is the animal breathing with an open mouth or gasping for air? Is respiration loud?

	Is there any discharge from the nose or mouth?
Body covering	Are there any obvious signs of damage to the animal's coat (such as bald patches) or feathers? Are the feathers fluffed up?
Wounds	Are there any obvious signs of injury, such as blood and wounds?

4.3.3 Animal health and welfare assessment

As much information as possible should be obtained prior to the examination, such as where the animal was found, street name, geographical location, etc. For many casualties, release back at the site of capture will be essential to successful rehabilitation and return to the wild. The wildlife live animal assessment and first aid form may be used for recording first aid activities (Appendix 1).

If the animal is alive, undertake a health and welfare assessment to proceed with further triage, using the indicators (Table 1), and a thorough systematic approach to examination of the animal (Table 2). Not all the checks in Table 2 will be safe or practical in all cases; start with the least stressful and invasive checks for the situation. Only continue with the examination if this can be done without undue stress to the animal, and try to keep the examination thorough but brief to keep stress of the animal to a minimum.

Remember the acronym "SOULS" to ensure no area is overlooked:

S Senses

O Orifices

U Underside

L Limbs

S Skin

Table 2 Systematic examination for first aid of wildlife (these checks, should be undertaken in addition to the checks in Table 1)

System to be examined	Details
Senses	Check level of awareness and consciousness; check vision and pupil dilation; check for any discharge (blood, water, pus) from eyes, nose, or ears Pupillary light response (mammals and birds): do the pupils constrict rapidly when a light is shone in them? Are the pupils equal in size?
Orifices	Check mouth and vent/cloaca/anus for discharges (bleeding, salivation, diarrhea) and deformities

	Check gum colour and capillary refill time in mammals and birds. Unpigmented gums should be rosy, pink, and colour should flow back within 2 seconds when the gum is pressed with a finger
Underside	Pouch check in female marsupials Check for wounds and deformities
Limbs	Check for fractures, wounds, and function
Skin	Check skin over rest of body, for any other external abnormalities Be sure to blow through the feathers of birds, so bruising and wounds are not overlooked

ANIMAL WELFARE: Records need to be kept on ejected pouch young, their care and fate for annual reporting requirements of projects approved by the department's Animal Ethics Committee.

4.3.4 Seeking expert advice

If you are uncertain how to proceed, the following personnel may be able to assist with advice and decisions regarding sick and injured wildlife:

- Veterinarians and veterinary nurses (preferably with experience working with wildlife)
- DBCA wildlife officers
- Registered wildlife rehabilitators

Any care, in addition to basic first aid, should be guided by the advice and/or direction of experts as outlined above.

An animal should only be removed from where it is found if the animal is expected to respond positively to care within 24 hours. The suffering of an animal should not be prolonged if the prognosis is poor.

In making a Priority 3 decision, the Wildlife Rehabilitation Standards and Guidelines should be followed.

In alignment with those standards and guidelines, the following conditions are likely to be Priority 3 situations which require euthanasia:

- Non-viable orphaned animals
- Permanent impairment of mobility e.g., a missing or impaired limb, wing, foot or tail that will significantly impair the animal's ability to survive in the wild
- Permanent impairment of the ability to sense the environment due to a missing or injured organ, such as an eye or ear (loss of vision in one eye/ear may result in different degrees of impairment, depending on the species, its locomotion, diet/foraging/predator avoidance behaviours, and habitat).
- Permanent impairment of the ability to catch, find or handle natural food sources

Clinical findings which may suggest the need for immediate expert intervention or euthanasia of wildlife include the following:

- The animal is collapsed, unresponsive, or unconscious, and does not respond to first aid.
- Fractures - especially 'open' fractures (= broken bones where the bone is penetrating the skin).
- Internal bleeding and/or severe external bleeding. Evidence of internal bleeding may include swelling of the abdomen, coughing up blood and/or very pale gums.
- Paralysis.
- Convulsions or incoordination.
- Penetrating injury to the eye, fixed and dilated pupil/s.
- Burn injuries.
- The animal is suspected to be suffering from an infectious disease.
- The animal is contaminated with oil or other pollutants.

4.4 First Aid

The *priorities for wildlife first aid, are different to those for domesticated animals*, because wildlife will not tolerate handling and will become very stressed with intervention. Simplicity is the key.

4.4.1 First aid equipment

The equipment should be appropriate for most fauna first aid response (Table 3).

Table 3. List of equipment to assist the first aid response

Assessment	**Capture, restraint and holding**
GPS	Small towels and/or blankets
Binoculars	Soft animal containment devices: calico bags, pillowcases, cotton sacks, hessian sacks
Torch	Rope, cable ties and/or pipe cleaners for closing bags
Method for recording information (including first aid form Appendix 1)	Ventilated small plastic containers (small birds, lizards)
Personal protective equipment	Artificial "pouches" (young marsupials)
Nitrile gloves	Plastic pet packs (larger marsupials)
Leather riggers gloves	Plastic tubs (freshwater turtles)
Eye protection	Instant heat pack
Surgical face masks	

Tools and instruments	Water dishes
Wire cutters	**Medical disposables**
Scissors	Gauze swabs
Pliers	0.9% saline
Small forceps	Water
	Povidone iodine (Betadine®) solution
Tweezers	20ml syringes (for flushing)

4.4.2 First aid priorities

The assessment should be carried out systematically following the first aid priorities for wildlife (Figure 2):

a) Minimise stress and shock

Any interaction with humans is stressful for a wild animal. Stressed animals can commonly progress from stress to shock, especially if they are otherwise sick or injured. In shock, the circulatory system collapses, leading to rapid pulse or breathing, recumbency and pale/white gums. An animal in shock is usually still, quiet, and cold.

The primary treatment for stress and shock is providing a dark, warm, quiet environment for the animal to recover in. The use of a handling bag is recommended where possible for mammals. Boxes should contain a towel or newspaper, as substrate and should be well ventilated. Calico bags should be placed in a dark, quiet location, and preferably suspended slightly off the ground, to enable good air circulation. All containers should be placed out of the elements, with protection from extremes of temperature.

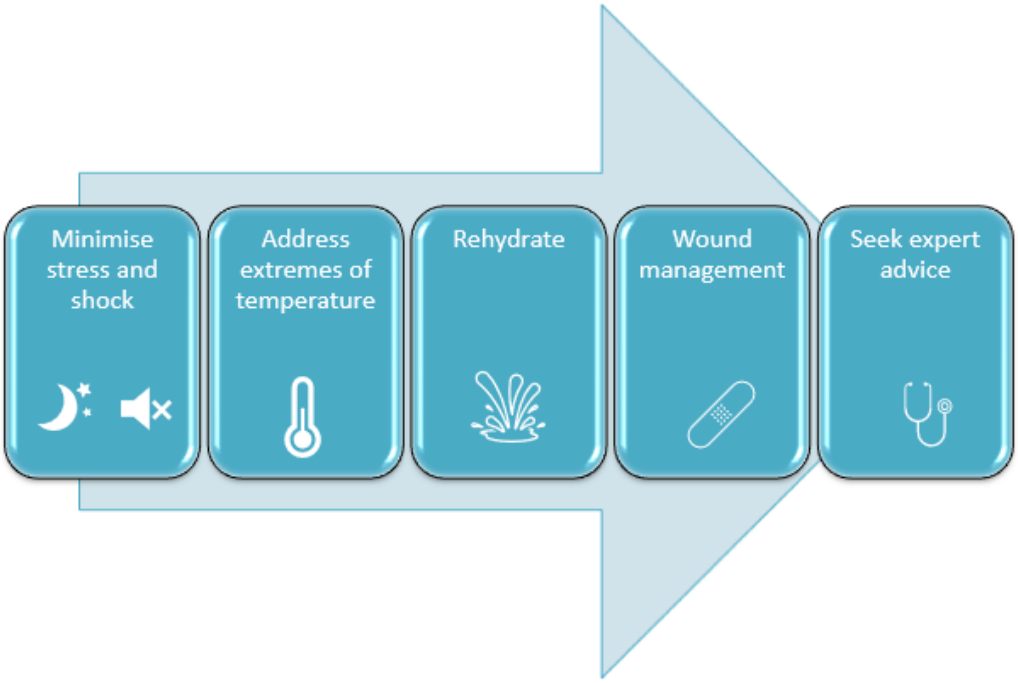

Figure 2 The diagram shows the first aid priorities for wildlife. These steps should be undertaken in the order shown.

b) Address extremes of temperature

Low body temperature (*hypothermia*) is common in sick and stranded reptiles, and in mammals or birds that have been unable to escape cold conditions. Additionally, most wildlife that is in shock will be hypothermic. Hypothermia is addressed by providing a sheltered environment, such as a padded box. Hot water bottles and heat packs may be used for gradual warming, but care must be taken to ensure the animal is not in direct contact with them and can move away from the heat. Either place heat packs under containers or use towels or pouches between the animal and the pack, to diffuse heat; monitor carefully for overheating.

Overheating (*hyperthermia*) is common in wildlife which have been struggling, or have been pursued, especially in warm or hot ambient conditions. It is most seen in mammals and birds, and it is characterised by; panting and open mouth breathing, rapid heart rate, holding the wings away from the body, licking of limbs/shoulders/chest/flanks (or dried saliva in those same areas) in macropods, and extremities that are hot to touch. Cooling can be achieved by transferring to a cool and ventilated position, providing shade, spraying down fur or feathers with water, and providing water to drink. Do not make the animal excessively wet when using these methods.

Reptiles are *poikilotherms,* which means their body temperature varies depending on the external environment. Reptiles have a Preferred Optimum Temperature Range (POTR), it is the temperature range at which they are active, and can carry out normal functions, such as feeding, reproduction and digestion. For first aid purposes, try and achieve at least 28˚C for diurnal reptiles.

If unable to evaluate the temperature of mammals and birds, assume a sick or injured animal is hypothermic and provide a warm (28-30˚C) ambient environment. Furless pouch young, and featherless birds will require higher temperatures of 32-34°C.

c) Rehydrate

Wildlife that is in shock, has suffered from exposure or is wounded, is also likely to be dehydrated. In mammals and birds, signs of dehydration include prolonged skin “tenting” (skin does not quickly go back into normal position when you pinch it up), tacky mucous membranes and sunken eyes. Hydration is best assessed over the pectoral muscles (breast/chest) in birds and the scruff of the neck in most mammals (Mullineaux et al.,2016).

Dehydrated animals which are able to stand and lift their heads independently may be provided with water; if they cannot tip it and get wet. Flat dishes should be used to provide water for mammals, while small bowls are appropriate for birds.

Turtles can be rehydrated by placing them in a container, on a towel that is covered by just enough water to reach the cloaca. Do not use this method until the animal is within its POTR.

Never pour or syringe any fluid directly into animals’ mouth. Nectarivorous birds and mammals can be offered water with added glucose, sugar or honey from the end of a syringe, if they are strong enough to feed directly from it. Expert fluid administration processes, such as the use of gavage tubes or crop needles to provide oral fluids, or fluid administration by intravenous, or subcutaneous routes, are not considered first aid procedures, and should only be undertaken by experts. Marked dehydration is an indication for expert intervention.

It is important not to offer fluids to an animal until it is warm, and its condition has stabilised.

d) Wound management

In highly stressed animals, the additional handling and restraint required to manage serious wounds or blood loss, generally renders the procedure unrealistic or ineffective and may result in further stress, pain and even death if attempted without expert input (e.g., chemical pain relief and/or sedation/anaesthesia).

The severity of the injury, the species involved, and the ease of intervention, will determine whether wound management is necessary and/or advisable. Generally, any injury that is more serious than a superficial cut or graze, or requires more treatment than simple cleaning, will require expert care. The exceptions are marine mammals, which can often recover without treatment from extensive, deep injuries.

Superficial wounds can be cleaned with tap water, 0.9% saline, or with diluted antiseptic using a 1% aqueous povidone iodine (Betadine®) solution, achieved by adding 1 part 10% Betadine solution to 9 parts water. Veterinary care should be sought for deep wounds. Do not use cotton wool, creams, oils or salves on wounds.

4.4.3 Special first aid scenarios

The table below, describes some special first aid scenarios that require additional consideration.

Orphans and evicted pouch young	Records on the care and fate of all orphaned and evicted PY must be kept for annual reporting requirements of AEC approved projects. Check the pouch of all female marsupials. Joeys can survive for several days after the mother's death. Refer to the department SOP for *Care of Evicted Pouch Young*. Young fledgling birds found on the ground, may have been deliberately placed there while their parents forage. Unless there is immediate danger, leave it where it is, and monitor from a distance to ensure a parent returns. Featherless nestlings can be returned to the nest if it can be located; otherwise, they will require expert care within 1-2 hours.
Eye injuries	Seek expert advice if vision is impaired, pupils are unequal or pupils do not respond to light. Foreign material, eye irritation, and wounds: flush gently with water or 0.9% saline at room temperature from a 20ml syringe (**without a needle attached**).
Exertional myopathy	See SOP *Hand Capture of Wildlife* for detailed information. Prognosis is guarded to poor; seek prompt expert care for Priority 1 and 2 cases. The Department's Animal Ethics Committee will require records of any animals suspected to be suffering from exertional myopathy.
Parasites	Ectoparasites, such as ticks and stickfast fleas, can be manually removed with forceps, if they are compromising function. Otherwise, they are generally not life-threatening and may be left in place. Excessive parasite load can indicate other illness, which may require expert attention.

	Antiparasitic drugs must only be given under veterinary supervision and direction.
Burns and bushfire exposure	Seek expert attention, burnt animals are likely to be dehydrated, in shock, in pain and suffering from smoke inhalation.
Flystrike	Fly larvae (maggots) can be manually removed from wounds by flushing with water or 0.9% saline; however this will cause stress, and if it is likely to take considerable time and handling, expert attention is preferred.
Mass casualties	When large numbers of animals require first aid (e.g., oil spills, cetacean stranding, bushfire) immediately contact the Wildcare Helpline on (08) 9474 9055.
Bats	All bats must be considered to be potentially infected with Australian Bat Lyssavirus (ABLV; see the department SOP *Managing Disease Risk and Biosecurity in Wildlife Management*). Do not handle unless vaccinated against rabies. Vaccinated personnel should always use appropriate PPE when handling. Orphaned and injured bats should be offered a firmly folded towel, placed in a semi-vertical position, to cling onto. Once the bat is clinging onto the towel, wrap another towel around it for security and warmth before seeking expert care.
Marine fauna	Seek advice from species experts for details of assessment and first aid for marine fauna, including cetaceans, dugongs, pinnipeds, sea turtles, sea snakes and sea birds.

5 Transport

Inform the people receiving the animal, so they can be prepared for its arrival.

All animals must be contained during transport. Ensure the container or handling bag is safely restrained within the vehicle (not in the boot or in an area near exhaust fumes). Consider the kicking ranges of contained animals when placing them in the vehicle (i.e. a kangaroo contained in a sack will still be able to kick with force). Minimise noise, light, and visual stimuli around the animal, provide adequate ventilation and an appropriate ambient temperature. Care needs to be taken when driving. The duration should be as short as possible; if a long journey is unavoidable, animals should be checked every hour.

For advice on transporting animals, refer to the department SOP for *Transport and Temporary Holding of Wildlife*.

6 Euthanasia

If the prognosis for recovery is poor, or the animal is likely to be unsuitable for release, then a decision to euthanase must be made. Refer to the flowchart in the department SOP for *Euthanasia of Animals Under Field Conditions*.

In addition, the following welfare concerns should also be considered, and may make euthanasia the more humane decision.

1. Is the time/distance of travel required to reach expert help excessive (>4-6hrs), and likely to involve significant pain and stress during the journey?
2. Is the management (treatment and rehabilitation) required to achieve full recovery and release, likely to involve extended time frames and/or intensive intervention which may result in extended pain and/or stress to the wild animal?

If the animal is euthanased due to an Adverse Event within an AEC approved project, refer to *Guidance for Adverse Events* for further information on how to proceed.

If the animal is an unusual or rare species, it may be of scientific interest. The euthanased animal should be passed onto an appropriate organisation (e.g. the Department or the Western Australian Museum). Refer to the department SOP for *Vouchering Vertebrate Fauna Specimens* for advice on collection and storage.

Where legislation allows, and the operator has received appropriate training and endorsement, euthanasia may also be performed by wildlife rehabilitators, wildlife authority personnel, RSPCA officers and police.

7 Post-mortem examinations and sampling

Post-mortem (necropsy) examination and sampling by expert personnel may be indicated in certain cases. Consider submitting the body for expert post-mortem examination and sampling in the following circumstances:

- The animal is part of an AEC-approved project, and its death is an Adverse Event
- There are suspicious circumstances relating to the death
- The cause of death requires further investigation or confirmation

If further diagnostic examination by experts is required, every effort should be made to deliver the carcass to examiners within 24 hours. Carcasses should be refrigerated, not frozen, pending further examination. Refrigerated carcasses should be delivered as soon as possible, but within 72 hours.

If the need for post-mortem examination involves an Adverse Event within an AEC-approved project, refer to *Guidance for reporting and reviewing adverse events* for further information on how to proceed.

For the information on the regulatory and technical requirements for preserving, storing and transporting biological specimens, refer SOP for *Vouchering Vertebrate Fauna Specimens* and *Tissue Sample Collection and Storage for Mammals.* For marine animals, also refer to *Marine Animal Carcass Management*.

If bodies or samples are not required for diagnostic or scientific purposes, dead animals should be offered to the Western Australian Museum.

8 Record keeping

If the need for first aid involves an Adverse Event within an AEC-approved project, refer to *Guidance for Adverse Events* for further information on recording requirements.

Record keeping is important in wildlife first aid and rescue. A detailed history gives rehabilitators or veterinarians valuable information about the situation and allows the animal to be returned to the exact location of origin if rehabilitation is successful. The wildlife live animal assessment & first aid form (Appendix 1) will assist in recording appropriate information.

9 Emergency contacts

If you find a sick, injured or orphaned native animal, contact Wildcare Helpline on (08) 9474 9055 for advice. The Wildcare Helpline operates 24 hours a day, seven days a week, diverting to afterhours numbers at nights and weekends, to provide immediate assistance.

Other numbers you may need to aid in helping the animal (or yourself) include:

- Poison Info 13 11 26
- Electricity 13 13 51
- Water 13 13 75
- Gas 13 13 52
- Police 13 14 44 (non-life-threatening situations)

10 Competencies

A person who is competent, has the knowledge, skills, and experiences that allow them to capture and handle animals successfully, and appropriately manage adverse events as required. Department personnel, and other external parties covered by the department's Animal Ethics Committee, undertaking projects that may involve applying first aid to animals, require approval from the committee and will need to satisfy the competency requirements (Table 4). Other groups, organisations or individuals using this SOP to guide their fauna activities, are encouraged to also meet these competency requirements, as well as their animal welfare legislative obligations.

Table 4 Competency requirements for animal handlers of projects using first aid to treat animals

Competency category	Competency requirement	Competency assessment
Knowledge	Broad understanding of the framework governing the use of animals in research and environmental studies in Western Australia	Training (e.g., The department Fauna Management Course or equivalent training). In applications, provide details on the course provider, course name and year.
	Understanding species biology and ecology	Personnel should be familiar with the biology and behaviour of species likely to be encountered and be aware of ways to reduce the stress of these species. This knowledge may be gained through sufficient field

		experience, and consultation of field guides and other literature.
	Understanding first aid procedures.	Personnel should be familiar with first aid procedures and this SOP. This knowledge may be gained through sufficient field experience and consultation of field guides and other literature.
Animal handling and processing skills/experience required	Experience in handling the species likely to be encountered during monitoring and surveying	Personnel should be experienced in hand capture, handling and restraint of the range of species likely to be encountered. This experience is best obtained under supervision of more experienced personnel. In applications, provide details on experience relating to the expected species or species groups.
	Euthanasia	Personnel should be experienced in appropriate euthanasia techniques for the species groups likely to be encountered. This experience is best obtained under supervision of more experienced personnel. Refer to the department SOP for *Euthanasia of Animals Under Field Conditions* for competency requirements.
	Experience managing disease risk in wildlife management	Personnel should be familiar with hygiene procedures and the principles of biosecurity. This knowledge may be gained through sufficient field experience and consultation of literature.

In conjunction with possessing the required understanding and knowledge of animal first aid procedures and animal welfare requirements, a guide to the experience and skill requirements for an animal handler to be considered competent to provide first aid to animals is as follows

- Total time in field: minimum 2-4 weeks undertaking trapping or similar animal handling.
- Recency of time in field: within the past 8 years.
- Minimum 5 individuals of similar species handled.

11 Approvals

A licence or authorisation may be required under the *Biodiversity Conservation Act 2016* (examples below). Contact the department's Wildlife Licensing Section for more information. It is your responsibility to ensure you comply with the requirements of all applicable legislation.

- Fauna taking (scientific or other purposes) licence (Reg 25)
- Fauna taking (biological assessment) licence (Reg 27)
- Fauna taking (relocation) licence (Reg 28)
- Section 40 Ministerial Authorisation to take or disturb threatened species.

12 Occupational Health and Safety

The following departmental SOPs for wildlife survey and monitoring activities are relevant to occupational health and safety:

- SOP *Managing Disease Risk and Biosecurity in Wildlife Management*
- SOP *Hand Restraint of Wildlife*

Departmental personnel, contractors and volunteers have duties and responsibilities under the Occupational Safety and Health Act 1984 and Occupational Safety and Health Regulations 1996 to ensure the health and safety of all involved. Fieldwork is to be undertaken in line with the department's corporate guidelines, policies and standard operating procedures, including but not limited to, risk management and job safety analyses. Further information can be found at: https://dpaw.sharepoint.com/Divisions/corporate/people-services/HS/SitePages/SOPs.aspx

If department personnel or volunteers are injured, please refer to the departmental Health, Safety and Wellbeing Section's 'Reporting Hazards, Near-misses and Incidents' intranet page, which can be found at https://dpaw.sharepoint.com/Divisions/corporate/people-services/HS/SitePages/Reporting-Hazards,-Near-Misses-and-Incidents.aspx

13 Further Reading

The following SOPs have been mentioned in this advice and it is recommended that they are consulted when proposing to carry out fauna monitoring activities which may require handling and restrain or euthanasia and sample collection of animals:

- Department SOP *Hand Restraint of Wildlife*
- Department SOP *Hand Capture of Wildlife*
- Department SOP *Transport and Temporary Holding of Wildlife*
- Department SOP *Care of Evicted Pouch Young*

- Department SOP *Managing Disease Risk and Biosecurity in Wildlife Management*
- Department SOP *Euthanasia of Animals Under Field Conditions*
- Department SOP *Vouchering Vertebrate Fauna Specimens*
- Department SOP *Tissue Sample Collection and Storage for Mammals*
- *Guidance for Adverse Events* (DBCA internal document)
- *Marine Animal Carcass Management* (DBCA internal document)
- *Wildlife Rehabilitation Standards and Guidelines* (DBCA internal document)

For further advice refer also to:

National Health and Medical Research Council (2013) Australian code for the care and use of animals for scientific purposes, 8th edition. Canberra: National Health and Medical Research Council.

Department of Biodiversity, Conservation and Attractions (2019) Draft Code of Practice for Wildlife Rehabilitation in Western Australia, Department of Biodiversity, Conservation and Attractions, Perth.(DBCA internal document)

Department of Parks and Wildlife (2022) Western Australian Oiled Wildlife Response Plan and Manual. Department of Parks and Wildlife, Perth. (DBCA internal document)

14 References

Morgan, K.J. (2008). Kiwi first aid and veterinary care. New Zealand: Department of Conservation. Available at: https://www.doc.govt.nz/Documents/science-and-technical/sap245.pdf

Mullineaux, E., Keeble, E., & British Small Animal Veterinary Association (2016). BSAVA manual of wildlife casualties (2nd ed.). British Small Animal Veterinary Association.

Appendix 1: Wildlife live animal assessment & first aid form

Examiner Name_____ **Phone:** _____ **Date:** _____ **Time:** _____

ANIMAL IDENTIFICATION: Log #/other ID _____ **Species** _____

LOCATION _____ Region/District: _____

GPS: _____ S _____ W

Other location details:_____

INCIDENT DETAILS

□ Single animal □ multiple animals (how many) _____

Type of incident (tick as many as apply): □ misadventure □ displacement/entrapment □ entanglement (tethered)

□ entanglement (not tethered) □ illness □ debilitation/starvation □ injury □ orphaned juvenile

□ other (give details) _____

SITUATION

Animal access (challenges, landmarks etc.): _____

Environmental conditions:_____

Other personnel in attendance □ YES □ NO _____

Situation hazardous □ to animal/s □ to humans (details) _____

INITIAL EXAMINATION

Age (circle): juvenile subadult adult unknow	Sex (circle): male female unknow
Weight (g) _____ actual/estimated Body condition score: (emaciated) □ 1 □2 □3 □4 □5 (obese)	Demeanour: □ bright □ quiet □ weak □ unresponsive
Body temperature: °C □ hypothermic □ hyperthermic	Gum colour □ rosy, pink □ red □ pale □ white
Heart rate (beats per min)	Respiratory rate (breaths per min)

Systems checklist - Tick *NSF = no significant findings* OR *NE = not examined:*

	NSF	NE	Abnormalities
Eyes/ears			□ pupils unequal □ no pupil response to light □ impaired vision □ discharge □ other
Mouth/nares			□ wounds □ discharge □ deformity □ other
Vent/anus			□ wounds □ diarrhoea □ discharge □ other
Skin/feathers/shell/fur			□ wounds □ shell fractures □ bruising □ other
Limbs			□ wounds □ fractures □ deformity □ paralysis □ incoordination □ other
Underside			□ pouch checked □ wounds □ other
Comments			

TRIAGE EVALUATION (tick): □ PRIORITY 1 □ PRIORITY 2 □ PRIORITY 3

FIRST AID GIVEN (see flow chart below for prompts)

DISPOSITION
Moved away unassisted □ left at site □ brought into care □ died □ euthanased □ released
If brought into care: Transferred to:
If died or euthanased: Carcass: □ left at site □ buried □ relocated □ landfill □ necropsy □ museum
If euthanased: Method (include volume if pentobarbitone):_____ Euthanased by (initials):_____

Priorities for wildlife first aid: