

Charles Darwin University Animal Ethics Committee

Standard Operating Procedure:

Funnel Trapping for Terrestrial Fauna (DBCA, 11/2022)

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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.

Section 5.3 Checking of traps:

In addition to this SOP, animals should be released as soon as possible after capture.

The time of animal holding and release must be specified in the project application, and this must be justified.

For traps open overnight, traps must be checked within 2 hours of sunrise.

Standard Operating Procedure

FUNNEL TRAPPING FOR TERRESTRIAL FAUNA

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

All personnel involved in an AEC approved project should read and understand their obligations under the *Australian code for the care and use of animals for scientific purposes*.

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Prepared for: Animal Ethics Committee

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Department of **Biodiversity,**
Conservation and Attractions

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1 Purpose

Funnel traps function as a confusion trap by making it difficult for animals to find their way out once they have entered. They are effective for trapping some reptiles and to a lesser extent, amphibians, invertebrates and mammals. Funnel traps are useful when attempting to trap certain species not readily caught in pitfall traps or in situations that prevent the use of pitfall traps, such as areas with shallow or rocky soil (Jenkins *et al.*, 2003).

This standard operating procedure (SOP) provides advice on the use of funnel traps for non-lethal trapping of terrestrial vertebrate fauna.

2 Scope

This SOP has been written specifically for scientific and education purposes, and endorsed by the Department's Animal Ethics Committee. However, this SOP may also be appropriate for other situations.

This SOP applies to all fauna survey and monitoring activities that may require the use of funnel traps to capture and collect terrestrial vertebrates, undertaken across the State by Department of Biodiversity, Conservation and Attractions (hereafter Department) personnel. It may also be used to guide fauna monitoring activities undertaken by Natural Resource Management groups, consultants, researchers and any other individuals or organisations. All Department personnel involved in the use of funnel traps should be familiar with the content of this document.

Projects involving wildlife may require a licence under the provisions of the *Wildlife Conservation Act 1950* and/or 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 provisions of 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 and should be referred to for broader issues. 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 level of impact of funnel trapping on the welfare of animals, staff 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 trap set up and trap checking 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 impact and improving animal welfare and the process for managing adverse events.

Department projects involving funnel trapping will require approval from the Department's Animal Ethics Committee.

Key animal welfare considerations that should be considered when funnel trapping are listed below and highlighted throughout the document.

3.1 Injury and unexpected deaths

If adverse events including injury, unexpected deaths or euthanasia occur then it is essential to consider the possible causes and take action to prevent further deaths. 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 by completing an *Adverse Events* form. Guidance on field euthanasia procedures is described in the Department SOP for *Humane Killing of Animals under Field Conditions*. Where disease may be suspected, refer to the Department SOP for *Managing Disease Risk in Wildlife Management* for further guidance.

3.2 Level of impact

Funnel trapping generally has a low to moderate level of impact on animals though in extreme weather conditions this can be elevated to very high. Funnel traps are most effective in warm conditions due to the nature of the species commonly targeted. Ground temperature can be significantly higher than the ambient temperature and careful planning must be undertaken prior to field work to ensure animal welfare risks are mitigated to the fullest extent possible.

Potential animal welfare impacts of funnel trapping include:

- Stress as result of harsh environmental conditions within the trap;
- Stress, injury or self-harm as a result of extended period in confinement;
- Trauma (e.g. accidental injuries inflicted during hand capture as some species can be difficult to remove from funnel traps);
- Dehydration (particularly of concern where amphibians are likely to be caught);
- Distress (e.g. exposure to predators etc.);
- Stress or mortality as result of interspecific or intraspecific interaction in trap (e.g. predation, ants).

If funnel traps are monitored by people with appropriate skills and experience, and preventative actions are in place, the impact should be low and only short term.

4 Approved Trap Types

The funnel trap most commonly used for terrestrial surveys in Western Australia is the double-ended funnel trap (see Figure 1). Single-ended funnel traps are also available however the double-ended funnel design has generally been found to be more effective (Farallo *et al.*, 2010).

The size of a funnel trap can vary but in general they are approximately 750mm x 180mm x 180mm and the internal diameter of the funnel entrance is 40mm. They fold up for transporting and storage, are constructed of shade cloth, have an internal spring and wire frame to maintain shape when open and have a near full length zipper for removing captured fauna (Thompson and Thompson, 2007).



Figure 1 A double-ended funnel trap opened up and folded up for transportation. Photo: *Terrestrial Ecosystems, 2007-2010.*

5 Procedure Outline

5.1 Setting and positioning funnel traps

(a) The location and configuration of trap placement as well as the number of traps will be determined by the purpose of the study and should be planned before commencing the survey. Consider the target species' likely use of habitat and home range, and welfare implications of trap placement when designing trap configuration and layout. Vegetation and habitat mapping may assist in survey design.

ANIMAL WELFARE: In determining the duration and frequency of trapping you should consider the purpose of your study and the potential welfare impacts. Identify the duration and frequency that will allow the goal of the activity to be achieved with the minimal impact on animals.

(b) Trap locations must be marked to ensure that none are missed when checking or closing traps. A GPS reading for each line (or trap point, if required) is strongly recommended. Permanent monitoring trap sites should also be marked using a permanent marker (e.g. numbered dropper post). The location information for permanent monitoring transects and their trap points should be recorded on datasheets and in a database.

ANIMAL WELFARE: Do not place funnel traps on or in the vicinity of ant nests or ant lines. Ants are known to distress and kill trapped occupants of funnel traps.

(c) Funnel traps are usually (but not always) used in conjunction with a drift fence. Drift fences increase the probability of capturing animals. The drift fence is usually constructed from aluminium fly-wire mesh, nylon fly-wire mesh or other suitable material, supported by wood and/or wire pegs. Aluminium flywire fence is preferable to nylon as it is more resilient and requires no supporting pegs when constructed correctly. Run the drift fence (approx. 25cm high once partially buried) along the transect. The length of the drift fence will be

determined by the purpose of the study, noting that the length of the drift fence and number of traps can greatly affect results (Greenberg *et al.*, 1994).

(d) Place the funnel traps (generally one on each side of the drift fence) at the trap locations (see Figure 2) making sure the traps are placed tightly against the drift fence and the ground so that no gaps exist (Jenkins *et al.*, 2003). The clasps used to hold the funnel traps closed should be positioned so that they do not push the funnel trap away from the drift fence.

(e) The number of funnel traps placed along the drift fence and at what intervals will be determined by the purpose of the study. Alternative arrangements include placing a single trap between lengths of drift fence (fence abutting both ends of the trap), a single trap at the end of a drift fence or alternating traps either side of a drift fence.

(f) Funnel traps should be set in level positions (clear debris from under trap to help level) or where this is not possible, push soil up into the ends of the trap opening to form a ramp. Ensure no large gaps exist between the trap and the drift fence. The transition from the substrate into the trap must be as smooth as possible (use soil and leaf litter or even flat rocks if required). Note that traps can become disfigured during folded storage and may need adjusting upon placement.



Figure 2: Two funnel traps sit flush with the drift fence and the ground (clasps positioned inwards to allow trap to sit flush with the drift fence) (left) and soil ramped into the opening of the funnel trap (right).

(g) Cover traps with 90% shade cloth, hessian sacks or reflective insulating material to provide shelter for captured animals (see Figure 3).

ANIMAL WELFARE: Good cover is critical for funnel traps to provide insulation and protection to animals in traps. Shade is vitally important in warm to hot weather to reduce the temperature inside. Funnel traps must never be exposed to full sunlight as animals can easily die of heat stress. It is essential that all funnel traps be protected by an adequate shade cover, such as hessian sacks, and if possible be positioned to take full advantage of natural shading and vegetated areas at the site.

Operators of funnel traps should carefully consider the passage of the sun during the day and minimise total exposure of the trap. Where possible, place funnel traps on the southern

side of vegetation. If the cover is not large enough to provide shade at both ends of the funnel trap, ensure that at least one end is completely covered and as much as possible of the rest of the trap is covered. Using vegetation such as leaves or Spinifex can also be an effective shade cover but must be anchored by branches or sticks so that it is not blown off by wind.

Traps must not be deployed at a site during any period of flood risk.



Figure 3: Appropriate cover for funnel traps.

(h) A long wet sponge inside the trap or a wet hessian under the trap may be appropriate to provide moisture where amphibians are likely to be caught (Jenkins *et al.*, 2003). Consideration should however be given to the risk of this attracting ants in hot environments.

(i) Baiting funnel traps is not standard practice. If using bait in funnel traps consider the risks of attracting ants and/or rodents which may damage and/or kill animals that have been caught in the trap (Thompson and Thompson, 2007).

(j) All traps must be accounted for during each trap checking period and at the end of the trapping session.

5.2 Opening funnel traps

(a) As identified above, ensure traps are protected from direct sunlight and heat by taking advantage of natural shading and vegetation in the landscape in addition to trap covers.

ANIMAL WELFARE: Avoid trapping or close traps in extreme weather conditions. Close pitfall traps if there is excessive rain or heavy rain is forecast. Plan ahead and monitor long-range and daily weather forecasts.

(b) Before the trap is left, it is important to check that it is all set up correctly and secured.

ANIMAL WELFARE: If an ant nest is noticed in the vicinity of an installed trap and ants are likely to be an issue, remove the trap and reposition at a safe location if necessary.

5.3 Checking funnel traps

ANIMAL WELFARE: Rainfall events that occur during a trapping period in a normally dry weather period can result in a number of species becoming active that may not normally be trapped (e.g. amphibians and some species of ants and other invertebrates). It is essential that staff monitor and manage these often large 'emergence' events to ensure that welfare of animals is not compromised. Modifications of trap set up and increased trap checking may be required when large numbers of adult and metamorph amphibians appear; personnel should ensure appropriate moisture is provided in traps and discourage increased predation by ants.

(a) Timing of trap checking:

ANIMAL WELFARE: The timing and frequency of trap checking and clearing is determined by giving consideration to the behaviour and biology of the species being targeted (and potential by-catch species) in association with the environmental conditions at the site. Trap checking timing and frequency should be reviewed and adapted when and if conditions change or adverse events occur. Traps may need to be checked more frequently throughout the day and/or night if prolonged trap confinement or environmental conditions are likely to increase the impact on animal welfare and affect survivorship.

For funnel trapping, traps need to be checked more frequently throughout the day if weather conditions are of concern for captured species, capture rate is high or the combination of species trapped results in unacceptable trap deaths through predation or attack.

No animal should be in a trap for a period of time approaching 24 hours. If traps are to be left open overnight at a site where small nocturnal mammals could likely enter traps, traps must be cleared early morning within 3 hours of sunrise. If reptiles are being targeted and mammals are unlikely to be entering traps, traps should be cleared after the peak activity period of reptiles (late morning).

If it is necessary to operate traps during the day in extreme conditions (i.e. summer months in the semi-arid to arid parts of the state) and adequate protection and insulation from radiant heat cannot be provided, traps must remain be disabled from capturing any further animals after the morning check and subsequently re-opened late afternoon (EPA & DEC, 2010).

(b) Venomous snakes and invertebrates may be captured in funnel traps. A job safety analysis should be undertaken before trapping is undertaken that plans for the removal and handling for such species. People with the appropriate skills and expertise must be available to assist.

(c) It is vital that extreme care is taken when checking traps in case animals that can cause harm to handlers are caught inside. Verify what type of animal/s are inside (particularly venomous snakes and invertebrates) before deciding how to handle the animal and putting hands in. Gloves, padded tongs and long forceps can be used to remove potentially harmful animals however particular care needs to be taken not to injure them due to reduced dexterity.

(d) Traps must be thoroughly inspected to ensure all animals are removed. Small animals can easily be overlooked in folds and dark corners. Traps must be picked up for

thorough checking- examining *in situ* on the ground is not acceptable. Hold the funnel trap up to the sky and rotate several times examining all areas of the trap before unzipping and fully inspecting the inside of the trap.

(e) Shake out the funnel trap after checking to double-check that all captures have been removed.

(f) Carry a range of appropriate handling bags and equipment (i.e. long forceps, gloves) when checking traps (refer to the Department's SOPs for *Hand Capture of Wildlife*, *Animal Handling and Restraint using Soft Containment* and *Hand Restraint of Wildlife*).

All traps must be accounted for during each day of trapping. Personnel undertaking the trapping should ensure that all are inspected, cleared and collected. This is the responsibility of the person in charge at the specified location on the day, ideally the chief investigator of the project or personnel under their direct supervision.

(g) The presence of ants in the trapping area can lead to detrimental impacts on captured animals. A small amount of surface insecticide (e.g. permethrin-based products including Coopex) can be applied around traps or under traps to discourage ants. Insecticides should never be used inside traps and extreme care must be taken to ensure that no free standing liquid droplets remain when using liquid-based permethrin as absorption/ingestion can be lethal to frogs and reptiles. Always read the MSDS of chemicals before use.

ANIMAL WELFARE: If moderate to high numbers of ants are identified at a trap site, or if small numbers of ants cause welfare issues, then the trap must be removed or moved to another location.

5.4 Removing animals from funnel traps

All animal handling must be done by (or under the guidance of) trained and competent personnel. Personnel must have adequate skills to capture, restrain and remove any species likely to be caught including those that have potential to cause harm.

(a) Funnel traps are capable of capturing very small species that may reside inconspicuously in folds and corners of the trap. Take extreme care to ensure traps are searched thoroughly and every specimen removed.

(b) Use handling bags appropriate for the species and length of containment as advised in the Department SOP for *Animal Handling and Restraint using Soft Containment*.

ANIMAL WELFARE: All handling bags and equipment should be kept clean to minimise risk of disease, contamination, etc. Refer to the Department SOP for *Managing Disease Risk in Wildlife Management* for further guidance.

(c) Techniques for removing animals from funnel traps vary depending on the species of invertebrate, mammal, reptile or frog involved and the experience and skills of the personnel.

Venomous snakes generally don't require handling. Opening the zip with long forceps and stepping back quietly is safer and less stressful for the animal compared with attempting to handle it.

General advice on capture and handling of animals is contained in the Department's SOPs for *Hand Capture of Wildlife*, *Animal Handling and Restraint using Soft Containment* and *Hand Restraint of Wildlife*.

- (d) Depending on the species in the funnel trap, removal must be as quick and efficient as possible, with the least amount of stress inflicted on captured animals.
- (e) Personnel undertaking trapping should be equipped with a trapping field kit and animals should be processed as quickly and efficiently as possible, ensuring stress is kept to a minimum.

ANIMAL WELFARE: To ensure minimal stress to the animals, animals should only be handled for as long as required to identify them and to collect any necessary measurements (usually no more than five minutes).

- (f) If an animal is injured during trapping or handling treat any superficial wounds (refer to the Department SOP for *First Aid for Animals*).
- (g) If an animal is seriously injured, refer to the Department SOP for *Humane Killing of Animals under Field Conditions* to aid decision making and determine if euthanasia or veterinary care is required. A euthanasia action plan should be developed before undertaking field work.
- (h) Record trapping data on an appropriate trapping datasheet and database.
- (i) Captured animals must be released at point of capture (unless the purpose of the trapping is for translocation, specimen collection or other approved reasons). Animals should be released as soon as possible and at an appropriate time of night or day. Animals must be released, or reach an alternate endpoint approved by the Department's Animal Ethics Committee, generally within 24 hours of capture. Animals should be released into good shelter and in a location that does not expose them to additional risks such as predation.

5.5 Identification

The taxonomy of many of the species captured by funnel traps can be dynamic. Some species may not be in field guides or fully described in museum records and can be difficult to identify accurately. Staff should try to stay up to date with taxonomic revisions for species they are likely to be trapping (the WA Museum may be able to assist with this). If trapping in new or poorly surveyed areas, staff should contact the WA Museum or other taxonomists to check if new specimens/tissue are required. Any trap deaths should be retained and offered to the museum.

5.6 Removing funnel traps

- (a) All traps must be counted out upon setting traps and counted in when removing traps. Personnel undertaking the trapping should keep tallies of traps to ensure that all are removed and that there are no traps left behind.
- (b) Traps should be emptied by unzipping and shaking out any loose material (particularly seeds and faecal material) before folding and transporting. If wet faecal matter is caught in the mesh cleaning with a disinfectant is required. Refer to the Department SOP for *Managing Disease Risk in Wildlife Management* for further guidance.

- (c) Remove flagging tape etc. from area

6 Trap Care and Maintenance

- (a) Trap must be maintained in good working order.
- (b) Ensure funnel traps are cleaned and dried thoroughly as they are susceptible to mould.
- (c) Small rodents and marsupials readily chew holes through the shade cloth and escape from funnel traps (Thompson and Thompson, 2007). Any damaged traps requiring attention should not be used until repaired or replaced.
- (d) Any damaged traps/drift fences requiring attention need to be noted and repaired or replaced before subsequent use.

7 Competencies and Approvals

Department personnel, and other external parties covered by the Department's Animal Ethics Committee, undertaking monitoring projects involving funnel traps require approval from the Committee and will need to satisfy the competency requirements detailed in Table 1. This is to ensure that personnel involved have the necessary knowledge and experience to minimise the potential impacts of funnel traps on the welfare of the animals. Other groups, organisations or individuals using this SOP to guide their fauna monitoring activities are encouraged to also meet these competency requirements as well as their basic animal welfare legislative obligations.

It should be noted that details such as intensity of the study being undertaken will determine the level of competency required and Table 1 provides advice for basic monitoring only.

Table 1 Competency requirements for Animal Handlers of projects using funnel traps to capture terrestrial fauna

Competency category	Competency requirement	Competency assessment
Wildlife licences	Licence to take fauna for scientific purposes (Reg 17) OR Licence to take fauna for educational or public purposes (Reg 15)	Provide licence number
Formal training <i>Note: Suitable levels of skills/experience can substitute for formal training requirements</i>	Department Fauna Management Course or equivalent training	Provide course year
General skills/experience	Relevant knowledge of species biology and ecology	Personnel must be able to correctly identify the likely species to be encountered in funnel traps for the site/s being studied. This knowledge

Competency category	Competency requirement	Competency assessment
		<p>may be gained by sufficient field experience and/or consultation of field guides and other literature.</p> <p>Estimated total time in field: Min 1 year involved in similar projects in similar locations.</p>
Fauna survey and capture skills/experience	Experience in setting and use of live traps	<p>Personnel must be confident setting funnel traps and associated drift fences. This experience is best obtained under supervision of more experienced personnel.</p>
	Training and experience in trap hygiene, disease transmission	<p>Personnel must be familiar with hygiene procedures. This knowledge may be gained by sufficient field experience and/or consultation of literature.</p> <p>Estimated total time in field: Min 1 year involved in similar projects.</p>
Animal handling and processing skills/experience	Experience in handling fauna	<p>Personnel must be confident at hand capture of the range of mammal species likely to be captured including species that may pose a risk/harm to handlers. Personnel must be able to correctly identify the likely species to be encountered in funnel traps in the area. This knowledge may be gained by sufficient field experience and/or consultation of literature.</p> <p>Estimated total time in field: Min 1 year involved in similar projects.</p>

8 Occupational Health and Safety

Always carry a first aid kit in your vehicle and be aware of your own safety and the safety of others as well as the animals when handling.

A job safety analysis is recommended prior to undertaking any monitoring which involves hand capture. This safety analysis should include the following considerations.

8.1 Animal bites, stings and scratches

Venomous snakes can be lethal. Personnel with appropriate first aid training and experience identifying and treating snake bites must be present where there is a risk of venomous snakes in the trapping area. Spiders, scorpions and other invertebrates may also be disturbed when checking funnel traps and can inflict irritating stings or bites. All inflicted

injuries (even superficial ones) should be appropriately treated as soon as possible to ameliorate possible allergic reaction, prevent infection and promote healing.

To improve safety, field personnel should be aware of the treatment for snakebite and carry appropriate pressure bandages. Personnel should also have up-to-date tetanus vaccinations. Department personnel must not capture bats unless fully vaccinated against Australian Bat Lyssavirus.

If Department personnel or volunteers are injured, please refer to the Department's Health and Safety Section's 'Report a Hazard, near-miss or incident' intranet page, which can be found at http://intranet/csd/People_Services/rm/Pages/ReportingHazards,Near-MissesandIncidents.aspxZoonoses.

8.2 Zoonoses

There are a number of diseases carried by animals, including ticks, that can be transmitted to humans (i.e. zoonoses such as Toxoplasmosis, Leptospirosis, Salmonella). All personnel must take precautions to minimise the risk of disease transmission to protect themselves, their families and wildlife populations.

Advice on minimising disease risk is contained in the Department SOP for *Managing Disease Risk in Wildlife Management*

8.3 Allergies

People with or that develop severe allergies associated with animals or animal materials should consult with their medical practitioner on appropriate precautions and actions for the handling of wildlife.

9 Further Reading

The following SOPs have been mentioned in this advice and It is recommended that they are consulted when proposing to use funnel traps.

- Department SOP *Hand Capture of Wildlife*
- Department SOP *Animal Handling and Restraint using Soft Containment*
- Department SOP *Hand Restraint of Wildlife*
- Department SOP *Humane Killing of Animals under Field Conditions*
- Department SOP *First Aid for Animals*
- Department SOP *Managing Disease Risk in Wildlife Management*

For further advice refer also to:

Environmental Protection Authority and Department of Environment and Conservation (2010) *Technical Guide - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (Eds. B.M. Hyder, J. Dell and M.A Cowan). Perth, Western Australia.

10 References

- Clark, D.R. (1966). A funnel trap for small snakes. *Transactions of the Kansas Academy of Science* 69(1): 91-95.
- Environmental Protection Authority and Department of Environment and Conservation (2010) *Technical Guide - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (Eds. B.M. Hyder, J. Dell and M.A Cowan). Perth, WA.
- Farallo, V. R., Brown, D. J. and Forstner, M. R. J. (2010). An improved funnel trap for drift-fence surveys. *The Southwestern Naturalist* 55(3): 457-460.
- Greenberg, C.H, Neary, D.G. and Harris, L.D. (1994). A comparison of herpetofaunal sampling effectiveness of pitfall, single-ended and double-ended funnel traps used with drift fences. *Journal of Herpetology* 28(3): 319-324.
- Jenkins, C.L., McGarigal, K and Gamble, L.R. (2003). Comparative effectiveness of two trapping techniques for surveying the abundance and diversity of reptiles and amphibians along drift fence arrays. *Herpetological Review* 34(1): 39-42.
- NHMRC (2004). *Australian code of practice for the care and use of animals for scientific purposes* (7th ed.). Canberra: National Health and Medical Research Council.
- Sutherland, W.J.(2006). *Ecological census techniques – a handbook* (2nd ed.). New York, NY: Cambridge University Press.
- Terrestrial Ecosystems. (2007-10). *Funnel Traps*. Available from: <http://www.terrestrialecosystems.com/funnels.htm>
- Thompson, G.G. and Thompson, S.A. (2007). Usefulness of funnel traps in catching small reptiles and mammals, with comments on the effectiveness of the alternatives. *Wildlife Research* 34: 491-497.
- Thompson, G.G. and Thompson, S.A. (2009). Comparative temperature in funnel and pit traps. *Australian Journal of Zoology* 57: 311-316.

11 Glossary of Terms

Animal handler: A person listed on an application to the Department’s Animal Ethics Committee who will be responsible for handling animals during the project.

Drift fence: A length of short fence which runs along the trap line, guiding the animals to the trap.

Funnel trap: A confusion trap in which the animal enters through a funnel entrance and cannot find its way out. The trap can be single or double ended and are often used with drift fences.