



WILDLIFE ETHICS COMMITTEE

Use of live traps to capture vertebrates - policy and procedure

General guidelines

Traps must be set up in a way that minimises the likelihood of adverse effects on the trapped animals.

The following issues must be considered in planning any trapping exercise:

- What weather conditions are likely to occur during the trapping period? (**refer to Critical Temperatures**)
- How exposed or protected are the trapping sites?
- What species are likely to be encountered, and at what density?
- Are ants likely to be a problem?
- The trapped animals will be deprived of food and water – how will this affect them?
- Is there a possibility the traps may fill with water, due to groundwater or poor drainage?
- Is the trapping taking place during the breeding season? Are the trapped animals likely to have dependant young?
- Other considerations specific to your particular circumstances?

The following strategies may be used to reduce the effects of some of the points mentioned above:

- Traps (box or cage) should be placed in protected locations if available e.g. under a bush or behind a log, and note taken of which direction the sun will be coming from.
- Cage traps must be enclosed in hessian or shade cloth to offer shelter and security. Shade shelters may be necessary for pitfalls in hot areas to protect animals from overhead mid-day sun e.g. a piece of raised plywood or a shade cloth "tent".
- Traps (box and cage) can be placed under a sheet of plastic, bark or wood to protect animals from rain. Do not fully enclose a trap in plastic, as the resultant condensation can cause excessive wetness in the trap.
- Funnel traps (soft mesh collapsible traps with a "lobster-pot" entrance) must be shaded and protected from rain using the same methods.
- Pitfall traps must include a refuge/shelter component at the bottom, e.g. PVC pipe section, bark pieces, cardboard.
- Insulating material (leaves, grass, or shredded paper) can offer shelter for small mammals in low temperatures. Cotton wool is not suitable. A 2-3 cm layer of dry sand, loose soil or leaf litter in the bottom of pitfalls allows lizards to bury themselves, providing security and protection from ants and vertebrate predators. This requires extra vigilance when checking the trap for hidden/buried animals.
- Moisture can be provided by the addition of damp leaf litter or moist sponge pieces.
- A piece of wood or polystyrene that will float can be placed in a pitfall trap to reduce the risk of drowning, but should not be relied upon. Traps which fill with water must be de-activated if they cannot be checked sufficiently regularly.
- Traps must not be located near areas of high ant activity.
- Insecticidal surface sprays or powder can be used around the trap to deter ants, but these should not be used routinely as they may be toxic for trapped animals, particularly frogs. Avoid spraying inside the trap.

- Small reptiles/invertebrates can be easily missed when checking funnel traps. Extra vigilance is required including holding the traps up towards light/sun for thorough checking.
- Captured animals must be released as close as possible to the point of capture, in an appropriately sheltered spot.

The frequency and timing of trap visitation should take the following considerations into account:

- What time of day will the sun fall on the traps? Animals must be removed before the sun can overheat the trap. Note: The sun is directly overhead during December/January exposing the bottom of pitfall traps to full sun.
- What is the capture rate? It will take longer to empty the traps if there are multiple captures, and this must be allowed for in the amount of trapping that is done. It may be necessary to deactivate traps if they cannot be checked with sufficient regularity.
- What combinations of species are likely to be captured? For example, diurnal lizards will need to be removed at the end of the day to prevent predation by nocturnal mammals.
- During hot or wet weather, more frequent visits should be made, as well as employing methods of protecting captures from the weather. It may be necessary to close Elliott traps during the day in hot weather (**refer to Critical Temperatures**)
- Trap checking schedules should be timed so that animals can be released within their normal activity period, unless adequate provisions have been made to hold animals appropriately until release.
- Elliott, cage and funnel traps must be carefully counted to ensure they have all been collected – every effort must be made to retrieve any missing traps.

All traps must be removed including pitfall traps and holes filled at the end of the trapping period.

Long-term trapping surveys and semi-permanent pitfall traps.

Semi-permanent pitfall traps are traps that have been installed in the ground for multiple trap events.

- Where it is proposed to leave semi-permanent pitfall traps on land that will be surveyed in the future, then **applications will need to include and nominate a representative of the landholder or company** who will be responsible for regular visual inspections and maintenance of these traps between trapping events.
- Semi-permanent pitfalls are to be made of materials sufficiently stable and robust (e.g. PVC pipes and caps) to survive anticipated weathering and damage levels over the duration of their use. Pits and or lids made of less robust or flexible material (e.g. catering type plastic buckets) are not considered a good long term option. If researchers need to use plastic buckets then once the lids are put on they should be covered by a hard, stable, cover (e.g. tin plate).
- When not in use, permanent pitfalls are to be made inoperable by employing techniques appropriate to the situation and trap type. As a minimum lids must be secured in a way they cannot be removed without human intervention (i.e. fastened by screws) and filled with non-perishable material that will allow any accidentally trapped animals to escape (e.g. sand, soil, rocks or sand bags). Note: some species cannot use sticks or makeshift ladders to climb out.
- Once lids are securely fastened they should be covered by soil to help prevent UV exposure and damage to the pit and so that they are not visible to the public. Be aware that in the event of a fire, plastic lids will melt.
- It is the researcher's responsibility to monitor reports of fires within the study area, and to ensure that in the event of a fire occurring in the vicinity of the trap site, all permanent pits are checked for integrity as soon as it is safe to do so.

Critical Temperatures.

Trapping should not take place during climatic extremes. Even for species adapted to the local environment, extreme heat or cold can reach levels that will be fatal. It is not sufficient to declare that trapping will be limited to the less extreme parts of the daily cycle (e.g. mornings in summer). When extreme temperatures animals are forced to operate close to their physiological limits through a significant proportion of the 24-hour cycle. Consequently, the additional stress of being trapped during such a period of time may not be as easily tolerated as it would during more equable conditions.

The conditions that constitute "extreme" will vary according to geography and season. Researchers should determine for a particular location and season what they will regard as the threshold temperatures (maximum and minimum). On days when the forecast maximum air temperature at or near the trapping location will be outside these thresholds, they must make the traps inoperative or explain explicitly what strategies or trap designs will be employed to guarantee the animals welfare. Under normal circumstances the WEC would expect that routine survey work in the arid zone would avoid the summer months, December through to the end of February and cease when forecast temperatures are 40 °C or above.

A potential disincentive for researchers to cease trapping is the expense and opportunity cost of being on-site at a remote locality and having to stop work. With this in mind, researchers should plan to carry out trapping activities when extreme conditions are less likely to occur to minimise the likelihood that their activity will have to be suspended.

If unexpected mortalities occur, trapping should cease and The Executive officer be notified by email within 24 hours and a full report must be submitted to the Wildlife Ethics Committee as soon as possible after the notification.

http://www.environment.sa.gov.au/files/sharedassets/public/plants_and_animals/aec-incident-reportform.docx

Invertebrate pitfalls and vertebrate bycatch

Users of pitfall traps with preservative fluids to catch invertebrates risk incidental captures of small vertebrates, and must take steps to minimise such accidental deaths. Traps with a larger diameter increase vertebrate bycatch. Low vertebrate toxicity preservatives should be used.

- Wet micro-pitfall traps for invertebrate collection must be as follows: small, plastic vials (approx. 80mm deep x maximum 20mm diameter) containing water, propylene glycol, or 75% ethyl or isopropyl alcohol, placed in the ground, flush to the surface.

- Other forms of wet pitfall trap are not permitted. Wet pitfall traps with formalin/picric acid preservatives are unacceptable as they cause an inhumane death and **must not be used**. Ethylene glycol is also unacceptable due to its high toxicity to vertebrates.

The 3 Rs: Replacement, Reduction and Refinement relating to trapping methods

The above recommendations represent lessons learnt from numerous field workers over several decades. The WEC is always looking to improve these methods for the better welfare of wildlife species and welcomes suggestions for innovations by researchers who are engaged in wildlife studies.

Contact

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