

Background

Although cage trapping is considered an ineffective tool for large areas, it may be useful in urban/residential areas where domestic cats are present, or where populations have already been reduced and individual cats need to be targeted.

In urban/residential areas, cage traps are preferred over foot hold traps as fewer injuries are sustained, non-target animals can be released unharmed and trapped feral cats can be transported away from the area for euthanasia. Soft net traps may also be useful for capturing individual problem animals in similar situations - refer to *GEN003 Trapping using soft net traps*. Padded-jaw, foot-hold traps should only be used at sites where the animal can be killed by shooting whilst still held in the trap. Foot-hold traps may be more effective than cage traps for hard-to-catch cats that have had minimal exposure to humans. Refer to *NSWCAT SOP3 Trapping of Feral Cats using Padded-Jaw Traps*.

This standard operating procedure (SOP) is a guide only; it does not replace or override the relevant legislation that applies in NSW. The SOP should only be used subject to the applicable legal requirements (including WHS) operating in the relevant jurisdiction.

Individual Standard Operating Procedures should be read in conjunction with the overarching Code of Practice for that species to help ensure that the most appropriate control techniques are selected and that they are deployed in a strategic way, usually in combination with other control techniques, to achieve rapid and sustained reduction of pest animal populations and impacts.

Application

- Trapping is time-consuming and labour intensive and is therefore an inefficient method for large-scale feral cat control in Australia. It can be effective in controlling problem individuals in urban and semi-urban areas.
- Cats are naturally cautious animals and can be reluctant to enter the enclosed space of a cage trap. Also, if food sources are readily available, they may not be hungry enough to approach a baited trap.
- Trapping in non-urban areas should be restricted to late autumn and early winter when food availability is generally low, and the likelihood of non-target species capture is reduced.
- Traps have the potential to cause significant suffering and distress so should only be used when there is no suitable alternative.
- Selection of appropriate traps and trap sites will maximise chance of capture and minimise the distress caused to target and non-target animals.

- Every effort must be made to avoid target and non-target deaths from factors such as exposure or shock.
- Before euthanasing a trapped cat, it must first be established that it is a feral cat, rather than a domestic pet or stray cat e.g., look for a collar and identification/ registration tag and scan for a microchip.
- It is recommended that the public be notified before commencement of a feral cat trapping program so that they can take action to protect their domestic cats. Trapping is most effective at night, so, if cat owners follow recommendations to keep their cats confined between dusk and dawn, the chance of trapping owned cats will be minimised.
- Once it has been established that the trapped cat is feral, it should be euthanased in a humane manner. This can be performed either by an authorised person at an animal shelter, council pound or veterinarian or by shooting while still in the cage at an appropriate site away from urban/residential areas.
- Traps must be used in accordance with relevant NSW legislation (*Prevention of Cruelty to Animals Act 1979*). In NSW, use of steel-jaw traps is prohibited. Trapping with padded-jaw traps, cage traps and treadle snares is permitted.
- Shooting of feral cats should only be performed by skilled operators who have the necessary experience with firearms and who hold the appropriate licences and accreditation. Storage and transportation of firearms and ammunition must comply with relevant legislation requirements.

Animal welfare implications

Target animals

- Feral cats are likely to suffer distress from being confined in a cage trap and they can sometimes be injured while trying to escape. Facial injuries are common.
- Traps must be inspected daily to prevent suffering and possible death from exposure, dehydration, starvation and/or shock.
- It is preferable to set up traps at sites where vegetation can provide shade and shelter.
- Shade cloth or hessian can be for used for protection during extremes of weather. In hot weather, water should be provided and in cold weather bedding should be available inside the cage. Where possible, trapping should be avoided when adverse weather conditions threaten the welfare of trapped animals.
- Captured animals must be approached carefully and quietly to reduce panic, further stress and risk of injury.
- Trapped feral cats must be killed as quickly and humanely as possible.
- If transporting a trapped cat away from the capture site to be euthanased, the cage should be covered with hessian or a blanket to provide shelter from direct sunlight, wind and rain and to minimise stress from visual threats. Cats must not be transported in enclosed car boots.
- To minimise the animal welfare implications of leaving dependant kittens to die a slow death from starvation, it is preferable not to undertake trapping when females are lactating e.g., September to March in non-urban habitats. There is a high probability that

- any female cat over six months old that is caught during this time will be pregnant or lactating.
- If lactating females are caught in a trap, reasonable efforts should be made to find dependent kittens and kill them quickly and humanely either by shooting (with a single shot to the brain) or manually applied concussive blow to the head. Litters may be found near to the trap site in the base of hollow tree trunks, among boulders etc.

Non-target animals

- Traps are not target specific, therefore other species such as birds and reptiles may be caught.
- Traps must not be set near areas that are regularly frequented by non-target species.
- Live non-target animals caught in traps must be examined for injuries and signs of illness or distress and dealt with as follows:
 - o Animals which are unharmed or have only received minimal injuries such as minor cuts or abrasions should be immediately released at the site of capture.
 - o Animals which have more severe injuries, or which are suffering from thermal stress should receive appropriate attention. An animal suffering from thermal stress can initially be placed in a suitable quiet holding area which provides warmth or shade to allow recovery before release. Animals with treatable injuries that cannot be immediately released or those failing to recover from thermal stress should be presented to a veterinarian or a registered wildlife carer for treatment.
 - o Animals that have injuries which are untreatable, or which would compromise their survival in the wild should be euthanased using a technique that is suitable for the species. For more information on euthanasia techniques refer to *GEN001 Methods of Euthanasia*.
- If a domestic pet is caught, it should be taken to the nearest animal shelter, council pound or veterinarian where it can be scanned for a microchip and the owner contacted or assessed as to suitability for re-homing.
- If wild dogs or foxes are caught in the trap they must be euthanased quickly and humanely (refer to NSWDOG SOP2 Trapping of wild dogs using cage traps and NSWFOX SOP5 Trapping of foxes using padded-jaw traps).

Workplace health and safety considerations

- Trapped feral cats can be dangerous to handle. They will be nervous and aggressive and can inflict serious injuries with teeth and claws. If these cats are killed whilst still in the cage, there should be no need to handle them directly. However, if handling is necessary, leather gloves and a catching pole, or a crush should be used. Operators must be protected by tetanus immunisation in case of infection of scratches and bites. Bite wounds often result in serious infections and should be treated by a doctor.
- Firearms are hazardous. All people should stand well behind the shooter when a cat is being shot. The line of fire must be chosen to prevent accidents or injury from stray bullets or ricochets.
- Firearm users must strictly observe all relevant safety guidelines relating to firearm ownership, possession and use.

- Firearms must be securely stored in a compartment that meets state legal requirements. Ammunition must be stored in a locked container separate from firearms.
- The shooter and others in the immediate vicinity should wear adequate hearing protection to prevent irreversible hearing damage, and safety glasses to protect eyes from gases, metal fragments and other particles.
- Care must be taken when handling live cats and carcases as they may carry diseases such as toxoplasmosis, ringworm and sarcosporidiosis that can affect humans and other animals. Routinely wash hands after handling all carcasses.

Equipment required

Traps

• Wire mesh cage traps are used. These can be obtained from commercial suppliers and are available in a variety of sizes (e.g., 740 x 310 x 310 mm, made of 2.5 mm welded wire with a mesh size of 12.5 x 25 mm). The traps have a spring door that is activated either by a treadle plate or hook mechanism. Only traps with treadle plates are recommended for catching cats as the hook mechanism can cause injuries to the trapped cat and handling and/or transferring of the cat is easier through the rear plate of the cage.

Lures

- A variety of olfactory, visual or auditory stimuli may be used to lure cats into the trap.
 Olfactory lures include synthetic fermented egg, catnip, tuna oil, cat urine and anal gland preparation and also soiled cat litter from a cattery. Visual lures such as bird feathers and cotton wool can be used, although these may not be needed if the trap is clearly visible, or the meat bait has a strong odour. Cat calling machines or 'felid attraction phonic' devices, which emit a cat meowing sound, can also be used as a lure.
- The attractiveness of lures will vary with season and location.

Meat baits

- A handful of meat bait is placed at the rear of the cage.
- Rabbit, chicken (including fried), beef, fish, lamb, kangaroo, tinned cat food, sardines and tuna have all been successfully used as bait.
- Capture efficiency may be improved by using bait that reflects the cat's staple prey for the area rather than being novel.
- Attractiveness and palatability of the bait will vary with season and location.

Firearms and ammunition

- Where shooting is the most appropriate means of euthanasia, smaller calibre rifles such as a .22 rimfire, with hollow- or soft-point ammunition, are suitable for euthanasia at short range (from 5-25cm away).
- The accuracy and precision of firearms should be tested against inanimate targets prior to the commencement of any shooting operation.

Procedures

Selection of trap sites

- Traps should be set in areas where cats are known to be active and may be placed under bushes, beside vehicle tracks and at rabbit warrens.
- The location of all trap sites must be accurately recorded. This information should be readily available to others in case the trapper is unable to return to check the traps.
- Do not place traps in areas where they may be interfered with/damaged by large stock or humans.

Placing and setting the trap

- Before setting each trap ensure that it is functioning properly.
- It may be useful to partially enclose the trap in a large hessian bag to prevent the cats from attempting to take the bait through the side or back of the trap. This also helps to reduce the visibility of bait to non-target species such as raptors and corvids.
- Cage traps should be set squarely on the ground and the doors of the trap bent upward to increase the openness of the trap space.
- The trap should be pegged to the ground to prevent the cat or some other animal from tipping it over and injuring itself and/or releasing the trap door.
- Place meat baits inside the trap and lures in suitable positions inside and outside of the trap.
- Cage traps should be clear of vegetation so that the cat can walk completely around the trap before entering.
- It is preferable to set traps at the end of each day and check early each morning. When traps are open during the day there is a greater risk of birds, such as magpies and currawongs, entering and triggering the trap.
- If traps need to be left open during the day, they should be checked again in late afternoon.

Identification of feral cats

- Feral cats, which survive with limited to no human contact or assistance, are the main target of control programs. Feral cats are unowned, unsocialised, have no relationship with or dependence on humans and reproduce in the wild. Feral cats are solitary and predominantly nocturnal, spending most of the day in the safety of a shelter such as a burrow, log or rock pile.
- Domestic cats may be quite docile and easily handled, but some will become anxious and distressed in cage traps and their behaviour will resemble that of feral cats unless they can be identified with a collar and tag.

Euthanasia of feral cats

Trapped feral cats can be killed humanely using one of the following methods:

Overdose of barbiturate

- These procedures can only be performed by, or under the direction of, a veterinarian or other authorised person.
- An intramuscular or subcutaneous injection of a sedative (ketamine at 20 mg/kg or xylazine at 1-2 mg/kg) is usually necessary to restrain the animal before euthanasing. The injection can be administered through the wire mesh without the cat being handled using an extendable pole syringe (or 'jabstick'). A cage with a 'crush' or 'squeeze-back' is also useful to restrain the cat at one end of the cage.
- Once the cat is sedated it is euthanased with an intravenous or intraperitoneal injection of pentobarbitone sodium (approximately 150mg/kg).
- If the cat cannot be sedated with an injection, anaesthetic gas (e.g., halothane or methoxyflurane) or carbon dioxide can be introduced into a plastic bag that has been placed around the cage. The animal will become unconscious quickly and quietly, followed by death after a short period depending on the gas used and its concentration. If preferred, once the animal is unconscious, it may be removed from the cage and euthanased with an intravenous or intraperitoneal injection of pentobarbitone sodium.

Shooting

- Trapped live feral cats can be euthanased by shooting whilst still held in the cage trap.
- It can be difficult to shoot feral cats humanely as they become very nervous and agitated when restrained and in the presence of people. Unnecessary people should keep away from the area. The shooter should approach the animal in a calm and guiet manner.
- Never fire when the cat is moving its head, be patient and wait until the cat is motionless before shooting. Accuracy is important to achieve a humane death. One shot to the head should ensure instantaneous loss of consciousness and rapid death without resumption of consciousness.
- To maximise the impact of the shot and to minimise the risk of misdirection the range should be as short as possible i.e., 5 to 25 cm from the head.
- Effectiveness of shooting is dependent upon the destruction of major centres at the back of the brain near the spinal cord. This can be achieved by one of the following methods (See also Figure 2):

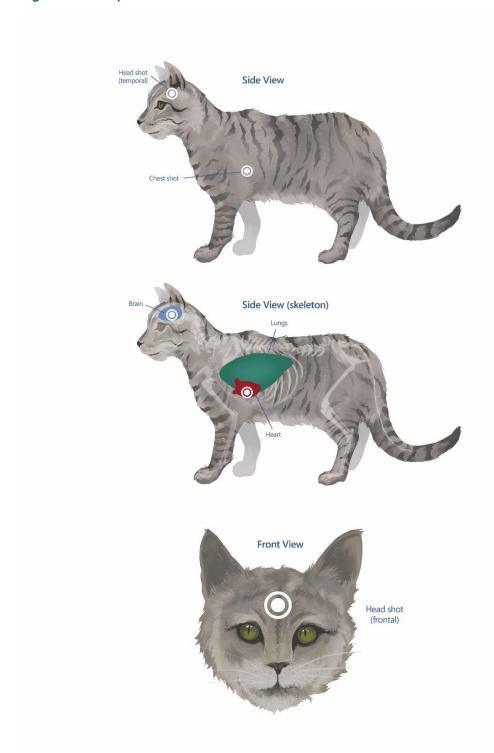
Frontal position (front view)

• The firearm is aimed at the centre of the head slightly below a line drawn midway between the ears.

Temporal position (side view)

- Shoot from the side aiming behind the ear so that the shot will pass through the brain towards the opposite eye.
- Death of shot animals should always be confirmed by observing a combination of the following:
 - o no heartbeat
 - o no breathing
 - o no corneal reflex (no blinking when eyeball is touched)
 - o no response to a toe pinch (a firm squeeze of the pad or large toe).
- If death cannot be verified, a second shot to the head should be taken immediately.

Figure 2: Shot placement for feral cats



Head shots (temporal or frontal) should be used for shooting feral cats caught in traps. See text for details.

Note that shooting an animal from above or below the horizontal level as depicted here will influence the direction of the bullet through the body. Adjustment to the point of aim on the external surface of the body may need to be made to ensure that the angled bullet path causes extensive (and therefore fatal) damage to the main organs in the target areas.

References

- Australian & New Zealand Council for the Care of Animals in Research and Teaching (2001). *Euthanasia of animals used for scientific purposes*. Second Edition. ANZCCART, Glen Osmond, Australia.
- Canadian Council on Animal Care (2003). *Guidelines on the care and use of wildlife*. CCAC, Ottawa, Canada.
- Denny, E.A. & Dickman, C.R. (2010). *Review of cat ecology and management strategies in Australia*. Invasive Animals Cooperative Research Centre, Canberra.
- Department of the Environment. (2015). *Threat abatement plan for predation by feral cats*. Australian Government, Department of the Environment. Available at: http://www.environment.gov.au/biodiversity/threatened/publications/tap/threat-abatement-plan-feral-cats
- Edwards, G.P., Piddington, K.C. & Paltridge, R.M. (1997). Field evaluation of olfactory lures for feral cats (*Felis catus* L.). *Wildlife Research*, 24: 173-183.
- Longair, J. A., Finley, G. G., Laniel, M. A., MacKay, C., Mould, K., Olfert, E. D., Roswell H. & Preston, A. (1991). Guidelines for euthanasia of domestic animals by firearms. *Canadian Veterinary Journal*, 32: 724-726.
- Molsher, R. L. (2001). Trapping and demographics of feral cats (*Felis catus*) in central New South Wales. *Wildlife Research*, 28: 631-636.
- Nutter, F.B., Stoskopf, M.K. & Levine, J.F. (2004). Time and financial costs of programs for live trapping feral cats. *Journal of the American Veterinary Medical Association*, 225: 1403-1405.
- Short, J., Turner, B. & Risbey, D. (2002). Control of feral cats for nature conservation. III. Trapping. *Wildlife Research*, 29: 475-487.
- Twyford, K. L., Humphrey, P. G., Nunn, R. P. & Willoughby, L. (2000). Eradication of feral cats (*Felis catus*) form Gabo Island, south-east Victoria. *Ecological Management & Restoration*, 1: 42-49.
- UFAW (1980). *The ecology and control of feral cats*: Proceedings of a symposium held at Royal Holloway College, University of London, 23rd and 24th September 1980. Universities Federation for Animal Welfare, Potters Bar, England.