

NATIONAL STANDARD OPERATING PROCEDURE: TRAPPING OF FERAL AND WILD DEER

Information current as of 31 January 2023

Reference as:

Terrestrial Vertebrate Working Group. 2023. National Standard Operating Procedure: Trapping of Feral and Wild Deer. Australia.

Available for download at pestsmart.org.au/toolkits/feral-deer/

Associated documents (referred to as associated COP and SOPs) relating to the National Standard Operating Procedure: Trapping of Feral and Wild Deer, include:

- National Code of Practice for the Effective and Humane Management of Feral and Wild Deer
- National Standard Operating Procedure: Ground Shooting for Feral and Wild Deer
- National Standard Operating Procedure: Aerial Shooting for Feral and Wild Deer

This document outlines best practice guidelines for the effective and humane management of feral and wild deer in Australia.

The Code of Practice (COP) outlines humane control strategies and their implementation while standard operating procedures (SOPs) describe control techniques, their application, and strategies to minimise any harmful impacts.

The national COP and SOPs comprise model guidelines that set minimum animal welfare standards. They do not override COPs and SOPs in jurisdictions where these documents have been developed, prior to or after the endorsement of these documents, to address specific management issues or to comply with relevant legislation. For example, the national-level COP and SOP for the management of feral and wild deer are not relevant in New South Wales, which currently has both state-level COP and SOPs in place (Sharp *et al.* 2022).

This SOP along with associated COP and SOPs will be reviewed by the Terrestrial Vertebrate Working Group (TVWG) within 12 months of when they were endorsed, to manage any potential risks to operations throughout the country.

Jurisdictions conducting operations for feral and wild deer control are encouraged to submit reports to the TVWG secretariat for discussion at either the 12 monthly review, or sooner if there are urgent matters that need to be raised. The reports should include:

- whether the national COP and SOPs were implemented in their jurisdiction
- whether the national COP and SOPs were effective
- apparent mistakes or oversights in the national COP and SOPs
- unintended consequences or adverse events that occurred when implementing the national COP and SOPs
- new techniques or modifications to existing techniques as a result of research or registration

These reports will form the basis of reviews by the TVWG.

This revision of the COP for feral deer management builds on the extensive work conducted by NSW over several years (see Sharp et al. 2022), which provided the springboard for expansion to a national approach. Guidance, input and reviews were provided by the multi-jurisdictional membership of the TVWG. Consultation and input were also provided by the RSPCA, veterinary experts, contractors, and operational and policy government staff.

This document has been endorsed by the Environment and Invasives Committee.

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PREFACE

This standard operating procedure (SOP) should be read in conjunction with the overarching Code of Practice for the Effective and Humane Management of Feral and Wild Deer, to ensure that the most appropriate pest control techniques are selected and deployed in combination with other techniques, to achieve rapid and sustained reduction of pest animal populations and impacts.

This SOP builds on the extensive work conducted by NSW over several years (see Sharp *et al.* 2022), which provided the springboard for expansion to a national approach. This national SOP and the associated COP and SOPs provide the most relevant and up-to-date information to support best practice approach to feral deer management for all regions.

This SOP and the associated COP and SOPs also cover the activities of recreational or sporting shooters in some jurisdictions, but not in others, as specified by jurisdictional legislation. This SOP also recognises that differences exist among jurisdictions in their approaches to managing feral deer. For example, access to suppressors for firearms varies among jurisdictions. Variations and modifications to pest control techniques among jurisdictions will be reflected in jurisdiction-specific COP and SOPs, which take precedence over the national versions.

BACKGROUND

Capture and euthanasia of feral deer may be used for management purposes. Clover or box traps are used to capture individual deer, and larger paddock, corral or 'enclosure' traps are used for groups of deer.

In some situations, the use of dart guns to sedate animals in a trap, prior to euthanasia, can be beneficial to minimise stress and maximise animal welfare. These programs and the use of sedatives are done under instruction of a veterinary or an appropriately qualified person. A review of chemical restraints used for feral deer has been undertaken and is referenced in the COP for the Effective and Humane Management of Feral and Wild Deer.

Trapping is an ineffective tool for population control over large areas or for knocking down large numbers of animals quickly. However, it may be useful in urban/residential areas where firearms are not permitted or safe to operate and where feral deer are becoming a nuisance or traffic hazard, or where populations have already been reduced and remaining individuals need to be targeted.

APPLICATION

- Trapping is time-consuming and labour intensive and is therefore an inefficient method for large-scale feral deer management in Australia. It can be effective in controlling problem individuals in urban and semi-urban areas. Trapping of adult sambar, in urban situations, may not be practical due to their large size and temperament.
- Some individuals may be particularly trap-shy and therefore reluctant to enter the trap. Also, if food sources are readily available, deer may not be hungry enough to approach a baited trap.

- 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, trapping sites, habituation methods, and trap size will maximise chance of capture and minimise the distress caused to target and non-target animals.
- Traps should not be placed anywhere in the likely view of people or pets (dogs), or in any place that presents a risk of people approaching or interfering with the trap.
- Every effort must be made to avoid target and non-target deaths from factors such as hypothermia and capture myopathy.
- Shooting of captured deer should only be performed by skilled operators who have the necessary equipment and experience with firearms and who hold the appropriate licences and accreditation. Storage and transportation of firearms and ammunition must comply with relevant legislative requirements.

ANIMAL WELFARE IMPLICATIONS

Target animals

- Feral deer are likely to suffer distress and potential capture myopathy from being confined in a cage trap for prolonged periods. They can sometimes also be injured while trying to escape, leading to facial, leg, and antler injuries. The likelihood of receiving injuries increases if multiple deer are caught in the same clover trap.
- Traps should be inspected twice daily, particularly in fawning season, but as a minimum once a day, to prevent suffering and possible death from capture-related injuries (hypothermia, hyperthermia, capture myopathy, dehydration, etc). Risk of injury and capture myopathy increases with increased time spent in the trap. Inspection can be undertaken on-site or through remote camera access.
- Where possible, trapping should be avoided when adverse weather conditions threaten the welfare of trapped animals.
- Corral traps must have hessian or shade cloth on the walls to create a visual barrier. This barrier will help to minimise injuries caused by animals jumping into the sides of the trap.
- Smaller traps must be set up at sites where vegetation can provide shade and shelter. Where large paddock traps are used, access to water, feed and shelter must be provided if deer are to be held for more than 24 hours.
- Captured animals must be approached carefully and quietly to reduce panic, further stress, and risk of injury.
- Trapped feral deer must be killed as quickly and humanely as possible (if euthanasia is the intended outcome).
- If sedating the feral deer prior to euthanasia the chemical being used and the dosage amount must be appropriate, to achieve the desired outcome.
- If lactating females without their young are caught in a trap and killed, reasonable efforts should be made to find dependent fawns and kill them quickly and humanely.
- Traps must be used in accordance with relevant animal welfare legislation:
 - Australian Capital Territory: *Animal Welfare Act 1992*
 - New South Wales: *Prevention of Cruelty to Animals Act 1979*

- Northern Territory: *Animal Protection Act 2018*
- Queensland: *Animal Care and Protection Act 2001*
- South Australia: *Animal Welfare Act 1985*
- Tasmania: *Animal Welfare Act 1993*
- Victoria: *Prevention of Cruelty to Animals Act 1986* and *Prevention of Cruelty to Animals Regulations 2019*
- Western Australia: *Animal Welfare Act 2002*.

Non-target animals

- Traps are not target specific, therefore other non-target species may be caught (depending on the trap mechanism and size of the animal).
- Traps must not be set near areas that are regularly frequented by non-target species, which are likely to be captured in traps.
- Live non-target animals caught in traps must be examined for injuries and signs of illness or distress and dealt with as follows:
 - Animals that are unharmed or with minimal injuries, such as minor cuts or abrasions, should be released immediately at the site of capture.
 - Animals with serious injuries or those suffering from thermal stress should receive appropriate attention. An animal suffering from thermal stress can initially be placed in a suitable quiet holding area that 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.
 - Animals that have injuries that are untreatable, or which would compromise their survival in the wild should be euthanised using a technique that is suitable for the species. For more information on euthanasia techniques refer to [GEN001 Methods of Euthanasia](#).

WORKPLACE HEALTH AND SAFETY CONSIDERATIONS

- Trapped feral deer can be dangerous to handle. They will be nervous and agitated and can inflict serious injury with their large bodies and legs. If deer are killed while still in the cage, there should be no need to handle them directly.
- Firearms are hazardous. All people should stand well behind the shooter when a deer is being shot. The line of fire must be chosen to prevent accidents or injury from stray projectiles 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 deer and carcasses as they may carry diseases such as Q-fever, salmonellosis, toxoplasmosis, and yersiniosis, which can affect humans and other animals. Routinely wash hands after handling all carcasses.

EQUIPMENT REQUIRED

Traps

- Corral traps are large and may be permanent or portable designs constructed at commonly used feeding sites, water points, or trails. Trap gates can be triggered remotely, triggered by tripwire, or they can have a one-way entrance. Corral traps have been used to trap fallow and rusa deer in NSW and rusa, red, and chital deer in Qld.
- Clover traps are designed for capturing individual deer. They are small traps, around 2 × 1 m in size and 1.5 m high, with a metal or wooden frame covered in nylon mesh to minimise injuries, and a trip wire that triggers a sliding door to close the trap. Clover traps have been used to trap rusa deer in NSW and Qld. Clover traps are not suitable for adult sambar deer.
- Paddock traps are large paddock-scale enclosures where feed, water, and cover are provided. Trap gates can be triggered remotely, by trip wire, or they can have a one-way entrance. Larger trap sizes give deer enough room to move away from people entering the trap, allow for effective handling and reduce the pressure on the fences.
- Traps should preferably be oval/circular without corners, and have blinds (hessian, pale-coloured shade cloth, or heavy-duty shade cloth) that cannot easily be seen through.
- Traps should not have sharp protrusions that animals can hurt themselves on, or mesh with sharp knots/joins. Recommended designs to improve welfare outcomes include scallop mesh with smooth knots and gates with a latch on the inside of the post.

Lures/baits

- Bait is required to attract deer into a trap and may include food, such as lucerne hay, grass, corn, barley, fruit, vegetables, and molasses, or a water source.
- Attractiveness and palatability of the bait will vary with season, location, and species of deer.

Firearms and ammunition

- A suitable firearm that will cause a rapid and humane death. The type of firearm is determined by the shooter and is based on the operation. Common firearms and their applications are listed in Table 1.
- Firearms may be fitted with an appropriate thermal scope, telescopic sight, red dot scope, or iron (open) sights.
- Dart guns can be used to sedate feral deer in traps prior to euthanasia. Sedation must be conducted under the instruction of a veterinary or an appropriately qualified person, to ensure the correct chemical and dose is used.

Table 1 Common firearms used in feral deer ground operations, including for trapped deer

Situation	Species	Firearm or tool	Ammunition
Sedating feral deer in traps or in urban/peri urban areas	All species	Dart gun	CO ₂ - or charge-powered guns fired pressurised or charge-powered darts chemical restraint as per instruction by a veterinary or an appropriately qualified person – appropriate for the species
Euthanasia of sedated feral deer (at point-blank range)	All species	Captive bolt	N/A
Killing trapped animals or euthanasia at close range (< 5 m)	Small deer (hog, chital, fallow)	Rimfire ≥ .22 LR shotgun	≥ 40 gr 9-25 pellets
	Large deer (red, sambar, rusa)	.22 WMR Centrefire ≥ .222 Remington shotgun	≥ 40 gr ≥ 50 gr 9-12 pellets
Field shooting (5-200 m)	Small deer (hog, chital, fallow)	Centrefire ≥ .222 Remington	≥ 50 gr
	Large deer (red, sambar, rusa)	Centrefire ≥ .270 Winchester	≥ 130 gr

PROCEDURES

Selection of trap sites

- Traps should be set in areas where deer are known to be active. Camera traps could be used to establish the areas with most deer traffic and least non-target activity.
- 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 or damaged by large stock or humans.
- Traps should be established away from the view of people to prevent deer being spooked from people and their pets (e.g. dogs) that may approach the trap.
- Trap sites should have some vegetation inside (to calm deer) but be not too dense, such that the vegetation may interfere with the shooting, darting, or dispatching of deer.

Placing and setting the trap

- Prior to trapping, traps should be left open with free feed inside to attract deer and allow them to acclimatise to entering the trap. This feeding should increase the probability of captures and potentially decrease the stress experienced by captured animals. The trap should be progressively built-in stages ensuring deer are freely entering and feeding before each further development.
- Before setting each trap ensure that it is functioning properly.
- The trap should be firmly staked to the ground or be heavy enough to prevent deer or some other animal from tipping it over and injuring itself, and/or releasing the trap door.
- Place free feed inside the trap in a suitable position in relation to the trap door mechanism.
- It is preferable to set traps at the end of each day and check early each morning. When Clover 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 and not set on excessively hot days.
- Traps should be checked twice per day during peak fawning periods, and at least once per day at all other times.
- Programs may use remote motion sensor camera monitoring technologies that provide automatic notifications of trap activation, enabling immediate response.

Euthanasia of trapped feral deer by shooting

- Trapped feral deer can be euthanised by shooting them in the trap.
- It can be difficult to shoot trapped feral deer humanely because they can become nervous and agitated when captured and in the presence of people. Unnecessary people should keep away from the area. The shooter should approach the animal in a calm and quiet manner.
- Never attempt a head shot when an animal is moving its head; be patient and wait until the deer is motionless before shooting. Accuracy is of paramount importance to achieve a humane death. One shot to the head should ensure instantaneous loss of consciousness and rapid death without resumption of consciousness. Chest/thorax/heart-lung shots are suitable when there is a risk that head shots may not be accurate.
- Where deer are contained within large paddock traps, shooting should be undertaken at night as per SOP Ground shooting of feral deer.
- In situations where multiple deer are trapped all efforts to reduce the stress to the feral deer, during the euthanasia, must be undertaken. Options to reduce stress include:
 - Shooting at night
 - Shooting with a suppressor (where allowed under jurisdictional legislation)
 - Shooting from a pre-erected hide, or platform above the trap wall
 - Using a sedative via a dart gun (on all trapped deer before they are euthanised by firearm at close range)
 - Approaching from upwind
 - Using blinds or other visual barriers on the sides of the trap, that are permanently attached to the walls, or preferably that can be dropped into place once deer are trapped, by remote activation, or manually using a single rope for all panel blinds (avoiding the need to walk around the trap).

Aiming points for head and chest shots are as follows (illustrated in Figure 1).

Head Shots

Frontal position (front view)

This is the preferred method for fawns/calves. It should not be used for larger adult deer due to the heavier bone structure of the front of the skull. The firearm is aimed at the middle of the forehead at the crossing point of two imaginary lines drawn from the eyes to the tops of the opposite ears. The bullet should be directed horizontally into the skull.

Poll position (rear view)

This method is preferred for mature/older animals that cannot be approached from the side. The firearm should be aimed at the back of the head at a point between the base of the ears and directed towards the mouth.

Temporal position (side view)

This method is preferred for mature/older animals. The firearm should be aimed at the side of the head so that the bullet enters the skull at a point midway between the eye and the base of the ear on the same side of the head.

Chest Shot

Side view

The firearm is aimed horizontally at the centre of a line encircling the minimum girth of the animal's chest, immediately behind the forelegs. The shot should be taken slightly to the rear of the shoulder blade (scapula). This angle is taken because the scapula and humerus provide partial protection of the heart from a direct side-on shot.

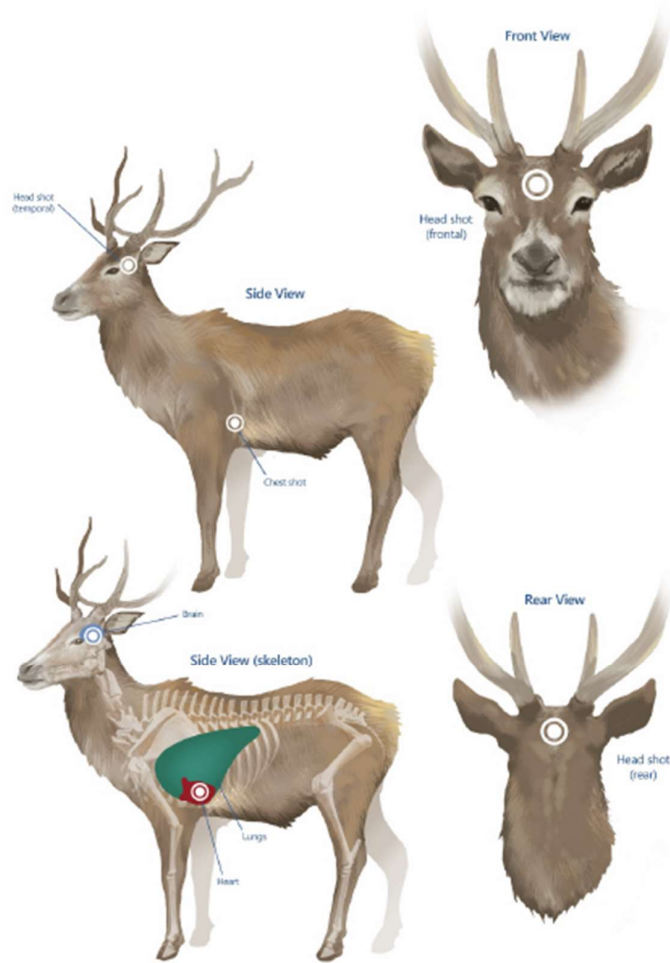


Figure 1 Shot placement for ground shooting of feral deer

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.