NATSOP-PIG001

NATIONAL STANDARD OPERATING PROCEDURE: TRAPPING OF FERAL PIGS

Reference as:

Terrestrial Vertebrate Working Group (2024) NATSOP-PIG001 National Standard Operating Procedure: Trapping for Feral Pigs. Australia.

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

Associated documents (referred to as associated CoP and NATSOPs) relating to the NATSOP-PIG001 National Standard Operating Procedure: Trapping for Feral Pigs include:

- National Code of Practice for the Effective and Humane Management of Feral Pigs
- NATSOP-PIG002 National Standard Operating Procedure: Aerial Shooting of Feral Pigs
- NATSOP-PIG003 National Standard Operating Procedure: Ground Shooting of Feral Pigs
- NATSOP-PIG004 National Standard Operating Procedure: Poisoning of Feral Pigs with Sodium monofluoroacetate (1080)
- NATSOP-PIG005 National Standard Operating Procedure: Poisoning of Feral Pigs using PIGOUT 1080 Baits
- NATSOP-PIG006 National Standard Operating Procedure: Poisoning of Feral Pigs with HOGGONE® Sodium nitrite Baits

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

The Code of Practice (CoP) outlines humane control strategies and their implementation while National Standard Operating Procedures (NATSOPs) describe control techniques, their application, and strategies to minimise any harmful impacts.

The national CoP and NATSOPs 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 NATSOP for the management of feral pigs are not relevant in New South Wales, which currently has both state-level CoP and SOPs in place (Sharp *et al*. 2022).

This CoP along with associated NATSOPs 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 pig 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 NATSOPs were implemented in their jurisdiction
- whether the national CoP and NATSOPs were effective
- apparent mistakes or oversights in the national CoP and NATSOPs
- unintended consequences or adverse events that occurred when implementing the national CoP and NATSOPs
- 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.

Acknowledgements
This document is based on the original work by Sharp, Cope and Saunders titled 'NSW Code of Practice and Standard Operating Procedures for the Effective and Humane Management of Feral Pigs' published in 2022. Much of the text presented here is a direct reproduction of the original source. This version primarily involves minor edits and formatting changes to adapt the original material for a national audience.
The TVWG acknowledges the significant research conducted by Trudy Sharp, Holly Cope and Glen Saunders which forms the basis of this text and acknowledge that the intellectual property and creative credit for most of this content remain with them.
Guidance, input and reviews were provided by the multi-jurisdictional membership of the TVWG. Consultation and input were also provided by animal welfare NGOs, National Feral Pig Action Plan's Implementation Committee and Scientific Advisory Panel, Centre for Invasive Species Solutions, and operational and policy government staff.
Coordination was managed by the National Feral Pig Management Coordinator, Dr. Heather Channon.

BACKGROUND

The use of fixed large panel or mesh traps for the live capture of feral pigs (*Sus scrofa*) is a common method used in Australia.

Prior to trapping, free feeding of non-toxic bait is offered at sites where pigs are active. After selecting a suitable site, a trap is then erected and free feeding is continued for a number of days before the trap is set. After pigs have been caught they are shot whilst still inside the trap.

Good trapping techniques should enable whole groups of pigs to be caught at one time with minimal impact on non-target animals.

This National Standard Operating Procedure (NATSOP) is a guide only; it does not replace or override the relevant state or territory legislation. The NATSOP should only be used subject to the applicable legal requirements (including WHS) operating in the relevant jurisdiction.

Individual NATSOPs should be read in conjunction with the overarching Code of Practice for feral pig. This is 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 feral pig populations and impacts.

APPLICATION

- Trapping should only be used in a strategic manner as part of a coordinated program designed to achieve sustained effective control.
- Trapping is effective for reducing numbers of feral pigs in areas where poisoning cannot safely be used or when pig populations are relatively low. It is often used as a follow-up control method after initial reduction of high-density pig populations.
- It is successful as a control technique when food resources are limited.
- Maintenance of traps is time consuming. Therefore, it is only suitable to use traps in situations where the operator has time to check them on a daily basis. Remote field cameras may be used to monitor for feral pig presence in traps and alert operators so that remotely activated traps can be deployed, and trapped animals can be readily and humanely dispatched.
- Shooting of pigs 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

- Traps should be set up at sites where vegetation can provide shade and shelter. Pigs have poor thermoregulation and can suffer greatly when exposed to extremes of heat and cold.
- Free feeding of non-toxic bait is essential for effective trapping as it increases the proportion of feral pigs in the area encountering and learning to enter the trap. Free feeding also trains additional pigs to enter the trap after the first few pigs have been caught and the trap door is activated.
- Free feeding also helps identify suitable trap sites and allows early identification of non-target interference.
- To minimise the possibility of dehydration and heat or cold stress, all set traps must be inspected daily.
- Trapping must not be conducted during extremes of weather; however, shade cloth or hessian can be used to provide some protection if the weather changes unexpectedly.
- The trap should be constructed in a way so as not to cause injury from loose wire, sharp edges or malfunctioning gates.
- Captured animals must be approached carefully and quietly to reduce panic, further stress and risk of injury.
- Trapped pigs must be destroyed by shooting as quickly and humanely as possible.
- If lactating sows are caught in a trap without their young, efforts should be made to find dependent piglets and kill them quickly and humanely.
- Animals that are significantly injured during the activation of dropdown gates must be euthanised as soon as possible to prevent pain and suffering.

Non-target animals

- Traps are designed for the capture of feral pigs and so pose only a small risk of capturing other species. Use of a pig-specific gate trip mechanism minimises the risk of catching some species e.g., wallabies. Placement of a steel post across a funnel trap entrance at a height of 1 metre above the ground will prevent cattle from entering.
- Live non-target animals caught in traps must be examined for injuries and signs of illness or distress and dealt with as follows:
    - 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.
    - 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, as appropriate, to allow recovery before release. Where animals have injuries that may be treatable, immediate advice should be sought from a veterinarian or a registered wildlife carer for treatment.
    - 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 NATSOP-GEN001 National Standard Operating Procedure: Methods of Euthanasia.
- If a trap continually catches non-target animals, an alternative bait attractant could be considered or the trap could be moved to another site where it will have minimal effect on other species.

Workplace health and safety considerations

- During construction of traps, operators should be wary of the risks of injury from lifting heavy items. Leather gloves and eye protection will help prevent injuries from wire, steel panels and hammers.
- Firearms are potentially hazardous. Everyone should stand well behind the shooter when pigs are being shot. A safe line of fire must be chosen to prevent accidents or injury from stray bullets or ricochets.
- Care must be taken when handling pig carcasses as they may carry diseases such as leptospirosis, Q fever, Japanese encephalitis (JEV). brucellosis, sparganosis, melioidosis and tuberculosis that can affect humans and other animals. It is recommended that disposable gloves and eye protection are worn when handling carcasses. Routinely wash hands after handling all carcasses. Carcasses can be heavy (>100kg), so care should be taken when lifting/dragging.
- Never enter a trap with a live captured adult pig. Feral pigs can be aggressive and will attack, especially in situations when they, or their dependent piglets, are distressed or threatened.

Equipment required

Traps

- Several trap designs exist, differing mainly in their gate construction. These include the silo trap, the drop-gate trap, the panel trap and the box trap. All are basically an enclosed area with a one-way gate.
- It is best to use steel mesh with a small grid size e.g., 50mm x 75mm or 50mm x 100mm. A grid larger than this will damage the pigs' snouts if they charge the mesh.
- The minimum height needs to be 1.5 metres to prevent feral pigs from escaping.
- Entrance to the trap can be a funnel entrance, a tripped gate or a pig specific trigger.
- Choice of trap design will depend upon habitat, material available and accessibility to site.
- Details of trap specifications and construction can be obtained from relevant pest control manuals and guidelines, for example:
    - PestSmart: https://pestsmart.org.au/resources/

Free feed

- Free feed preferences of pigs can vary from area to area. Current diet will sometimes determine how readily the pigs will accept an alternative food.
- Pigs will be more attracted to free feed with a strong odour.
- Free feed can include grain (e.g., wheat, oats, barley or sorghum) or commercial pellets but is usually driven by local availability. Grain can be soaked in water (fermented) with molasses added as an attractant). Vegetables and fruit can also be used.
- It is illegal in Australia to use mammalian product e.g., meat portions or carcasses, as free feed or as bait in traps due to the risk of transmitting disease through swill feeding.
- A permit can be obtained from the relevant Chief Veterinary Officer (CVO) to use mammal products for the purposes of baiting. Under these circumstances the CVO would need to be satisfied that the mammal product being used does not constitute a disease risk. Please refer to relevant state and territory legislation and regulations.
- Large amounts of free feeding will be required; around 10-20 kg each time the trap is set.
- Automated pig-specific feeders can also be utilised to attract and habituate feral pigs to a control site whilst reducing the number of visits required when free feeding.

Firearms and ammunition

- Smaller calibre rifles with hollow/soft point ammunition may be adequate for euthanasia of pigs using a head shot at short range (within 5 metres). .22 calibre rimfire rifles are an example of 'smaller calibre rifles' that are suitable for shooting pigs in traps.
- 12-gauge shotguns may also be used with shot sizes of SG or SSG for large pigs over 40kg, and BB or AAA cartridges for small pigs less than 40 kg.
- Shooters must check ballistic charts for the specifications for the combination of firearm and ammunition they want to use.
- The accuracy and precision of rifles should be tested against inanimate targets prior to the commencement of any shooting operation.
- Firearms fitted with red dot scopes or laser pointers can assist with accurate shot placement.
- Although pigs are comparatively large animals, the vital areas targeted for clean killing are small.

Procedures

Selection of trap sites

- Free feeding should be undertaken at sites where pigs are active, for example, near watering points, holes in fences, wallow areas or sites of recent damage to crops. This helps to retain pigs in the area and will give an indication of the most suitable trap site. Leave 5 to 10 kgs of grain or pellets at each selected site. If necessary a short (5-10m) trail of bait can be used to lure pigs to a chosen trap site.
- Cease any activity in the area that will disturb normal feeding behaviour e.g., shooting or use of dogs.
- If possible, choose a site that is in a shady area with as much natural vegetation as possible.

Placing the trap

- Build the trap at a site where bait is being regularly taken.
- Place fresh bait both inside and outside the trap to keep pigs feeding for 1 to 2 days.
- Once the pigs have become accustomed to the trap and are still regularly feeding, only place bait inside the trap. Keep feeding until all pigs within a group are going into the trap to feed before it is actually set. This may take 1 to 2 weeks. A camera trap is recommended to determine that all group members are entering the trap.

Setting the trap

- Once bait is being taken inside the trap, set each evening and check the following day, preferably in the morning.
- Continue to set the trap each evening until no more pigs are caught. A change of bait may be tried to entice more pigs, with free feeding again for 1 to 2 nights before activating the trap.
- Traps can be left at permanent sites and reactivated when fresh pig activity is detected or they can be moved to new sites depending on requirements.
- Some baits, e.g., grain, may attract birds. Where this happens, lightly cover the bait with vegetation or soil. Night baiting may also reduce bird take. Additionally, grain that has been dyed green (or blue) may help to deter consumption by birds.

Shooting of pigs

- Caught pigs should be humanely killed by shooting inside the trap.
- Shooting must be conducted to cause sudden and painless death with minimum distress to the animal. Only head shots are acceptable.
- The shooter should approach the animals in a calm and quiet manner. To prevent unnecessary agitation of the trapped pigs, other people should keep away from the area until shooting is completed. Park vehicles away from the trap site and keep voices low.
- Additional pigs may be located outside the trap and can be shot using the appropriate firearm as per ground shooting.
- Direct shot through open top of the trap or with the muzzle of the rifle through the mesh of the trap panel. Do not shoot pigs at a distance through the trap panel. To maximise the impact of the shot and to minimise the risk of misdirection, the range should be as short as possible.
- Accuracy is important to achieve a humane death. Shots are more likely to be accurate when the animal is not moving and is looking at the shooter.
- A single, accurate shot to the head should ensure instantaneous loss of consciousness and rapid death without resumption of consciousness. However, if an animal does not appear to be killed by the initial shot, then a further shot (or shots) must be taken to ensure death before targeting further animals.
- If small piglets (<5kg) are caught in the trap, it is preferable to shoot the adult pigs first to avoid the piglets being trampled, Ideally, shooters should shoot those animals that are calm and present themselves for an accurate shot first, regardless of size or age. Very small piglets (<5kg) can also be captured by hand and euthanased with a concussive blow to the head once the larger pigs have been shot. The blow should be made using a hammer or other suitable solid heavy object and aimed at the centre of the forehead in the position as for frontal shooting.
- Shots must be aimed to destroy the 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 1). Figure 1 illustrates ‘shot placement’ rather than aim point. The actual aim point and angle will change depending on where the shooter is standing relative to the animal.

Frontal position

- This is the ideal site for shooting pigs. The firearm should be aimed at a point midway across the forehead and about 2cm above the level of the eyes. The bullet should be directed in the direction of the tail.

Temporal position

- This shot is useful for older pigs and large boars that can have foreheads consisting of thick bones and a ridge that runs down the centre. The firearm is aimed from 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. The bullet should be directed horizontally into the skull.

Behind the ear

- This shot is used for older pigs and large boars that can have foreheads consisting of thick bones and a ridge that runs down the centre. The firearm is aimed at a point behind the ear directed towards the opposite eye.

Once all animals in the trap have been shot, death should be confirmed in each animal by observing a combination of the following:

- no heartbeat
- no breathing
- no corneal reflex (no blinking when the eyeball is touched) which may be checked before entering the trap with a stick or piece of dowel.
- no response to a painful stimulus e.g., a pinch of the ear tip.

If death cannot be verified, a second shot to the head should be taken immediately.

Disposal of carcasses

Carcasses must be removed from the trap and should be disposed of accordingly to minimise disease risks associated with using meat to attract other pigs as discussed above. Carcasses should be buried some distance away from the trap.

For further information about disposal of carcasses in some states and territories refer to:

- NSW: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/1299603/animal-carcass-disposal.pdf
- South Australia: https://www.epa.sa.gov.au/files/7566_onfarm_disposal.pdf
- Victoria: https://agriculture.vic.gov.au/biosecurity/pest-animals/invasive-animal-management/integrated-feral-pig-control

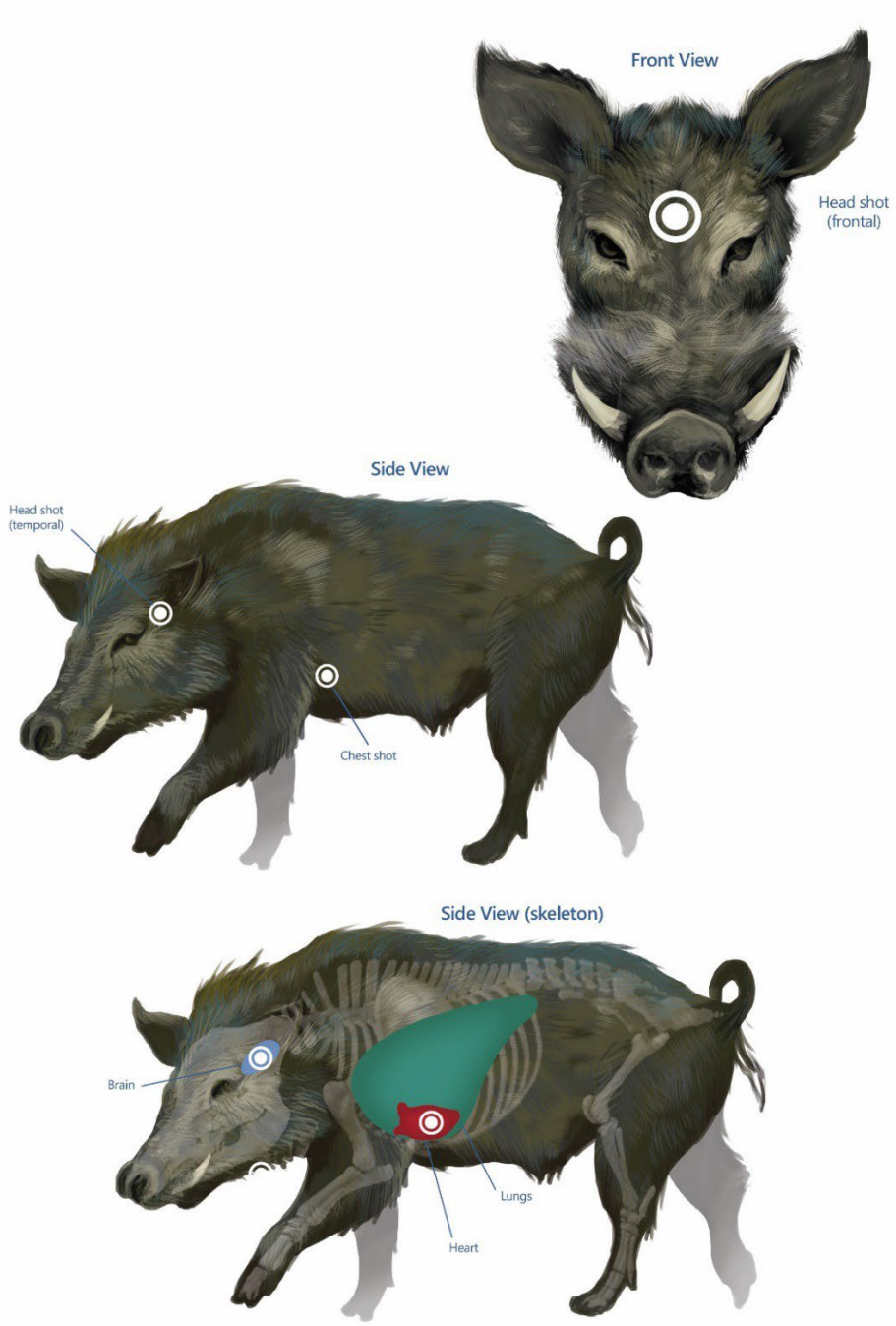

Figure 1: Shot placement for trapped feral pigs

Head shots (temporal or frontal - as above, or behind the ear -not shown) should be used for shooting feral pigs 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.

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