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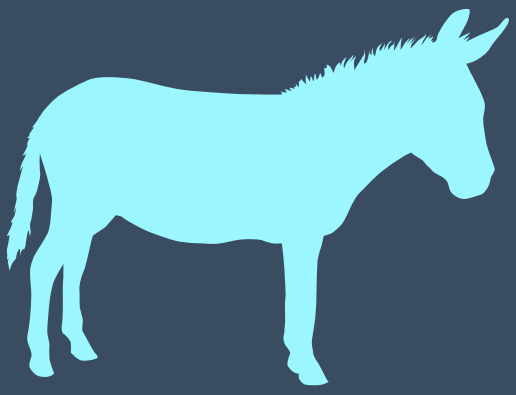
NSW Code of Practice and Standard Operating Procedures for the Effective and Humane Management of Feral Donkeys



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Preface

This document (Code of Practice (COP) and relevant Standard Operating Procedures (SOPs)) provides current information and guidance to government agencies, land managers and pest animal controllers involved in the management of feral donkeys in NSW. The aim is for control programs to be conducted in a way that reduces the negative impacts of feral donkeys using the most humane, target-specific, economic and effective techniques available.

Previously published and endorsed COPs and SOPs [1] available via the PestSmart website (https://www.pestsmart.org.au/) can provide general guidance for national use, but some of the content may now be out-of-date. This revision of NSW-specific COPs and SOPs [2] has been developed to provide the most relevant and up-to-date information to support best practice pest animal management in NSW. Outdated information has been removed, while new information has been added to reflect the advancements and changes specific to feral donkey management within NSW. For ease of use, the COP and SOPs for each species have been consolidated into one document however; links are provided to allow printing of individual SOPs as required.

Contents

Introduction

All pest animal management must aim to minimise individual animal suffering while at the same time optimising the population impact of a control program. This requires use of the most humane methods that will achieve the control program's aims. Consideration of animal suffering should occur regardless of the status given to a particular pest species or the extent of the damage or impact they create. While the ecological and economic rationales for the control of pests such as the feral donkey are frequently documented, of equal importance is an ethical framework under which these pests are controlled.

A **Code of Practice** (COP) provides overarching context and brings together the SOP procedures in context, and now in one document that specifies humane control options and their implementation. In this way, COPs encompass all aspects of controlling a pest animal species as determined by best practice principles, relevant biological information, guidance on choosing the most humane and appropriate control technique and how to most effectively implement management programs.

This COP provides state-wide guidance and is based on current knowledge and experience in the area of feral donkey control. It will be revised as required to take into account advances in knowledge and development of new control techniques and strategies.

Standard Operating Procedures (SOPs) ensure that an ethical approach (including the recognition of, and attention to, the welfare of all animals directly or indirectly affected by control programs) is uniformly applied to each pest animal control option. The SOPs are written in a way that describes the procedures involved and animal welfare issues applicable for each control technique, thus acting as a detailed guide to support best practice control programs.

Definitions and terms

Best practice management – a structured, consistent and adaptive approach to the humane management of pest animals aimed at achieving enduring and cost-effective outcomes. 'Best practice' is defined as the agreed principles and specific techniques at a particular time following consideration of scientific information and accumulated experience [3].

Euthanasia – literally means a 'good death' and usually implies the ending of suffering for an individual; however, when used in regard to animals it usually refers to the means by which an animal is killed rather than the reason for killing it [4, 5].

Humane – refers to an absence of (or minimal) pain, suffering and distress (e.g., a relatively more humane euthanasia method will cause less pain, suffering and distress than a relatively less humane euthanasia method).

Humaneness – level of welfare impact or welfare cost (e.g., assessing level of humaneness is equivalent to assessing welfare impact or cost).

Humane killing – the killing of animals using relatively humane methods in certain situations (e.g., animals used in research or pest management) for reasons other than to reduce their suffering.

Humane vertebrate pest control – the development and selection of feasible control programs and techniques that avoid or minimise pain, suffering and distress to target and non-target animals [6].

Pest animal – (also referred to as vertebrate pest) native or introduced, wild or feral, non-human species of animal that is currently troublesome locally, or over a wide area, to one or more persons, either by being a health hazard, a general nuisance, or by destroying food, fibre, or natural resources [7]. Refer to Vertebrate Pesticide Manual [8] for relevant governance and legislation information as applied to the control of vertebrate pests.

Welfare – an animals' state as regards its attempts to cope with its environment [9]. Welfare includes the extent of any difficulty in coping or any failure to cope; it is a characteristic of an individual at a particular time and can range from very good to very poor. Pain and suffering are important aspects of poor welfare, whereas good welfare is present when the nutritional, environmental, health, behavioural and mental needs of animals are met. When welfare is good, suffering is absent [10].

Best practice in pest animal management

From an animal welfare perspective, it is highly desirable that pest animal control programs are efficient, effective and sustained so that pest populations are reduced to low levels and not allowed to recover, thereby avoiding the need for repeated large-scale killing. Over the last decade, the approach to managing pest animals has changed [3]. Rather than focussing on inputs, it is now realised that like most other aspects of agriculture or nature conservation, pest management needs to be carefully planned and coordinated with the aim of reducing to an acceptable level the damage due to pest animals i.e., the focus is on measurable economic and environmental outcomes. Pest animal control is just one aspect of an integrated approach to the management of production and natural resource systems and management of other factors may also be required to achieve the desired result. For example, for a lamb producer with limited resources, other factors influencing lamb production may include weed control, cover for lambs, ewe nutrition or rams that give a higher twinning rate. Unless pest animal control actions are well planned, collaborative and coordinated at the right temporal and spatial scales, individual control programs are unlikely to have long term benefits. When planning pest animal management, there are some important steps that should be considered (Braysher and Saunders, 2015 [11]):

1. Identify the trigger to undertake pest animal management? Is there a community or political pressure for action on pests and an expectation that pest animals should be controlled? Pest control is unlikely to be effective unless there is strong local or political will to take action and commit the necessary resources.
2. Identify the key group to take responsibility for bringing together those individuals and groups that have a key interest in dealing with the pest issue.
3. Identify the problem. In the past the pest was usually seen as the only problem. We now know that the situation is more complex. First, determine what the problem is. For example, it may be effects on native fauna, reduced levels of agricultural production, and complaints from neighbours or emotional stress from worrying about pest impacts. Several factors impact on each of these problems and control of pests are often only part of the solution.

4. Identify and describe the area of concern. Sometimes it helps to remove agency and property boundaries (nil tenure) so that the problem can be viewed without the tendency to point blame at individuals, groups or agencies. Property and agency boundaries can be added later once agreement is reached on the best approach.
5. Try to break the area into smaller management units for planning. These smaller units may be determined by water bodies, mountain ranges, fences, vegetation that is unsuitable for a particular pest or other suitable boundaries that managers can work to. While it is best to work to boundaries that restrict the movement of pests, this may not be practicable and jurisdictional boundaries, for example, the border of a Landcare group, may have to be used in combination with physical boundaries. Once the management units are identified:
   a. Identify as best you can, the pest animal distribution and abundance in each management unit.
   b. Estimate as far as is practicable, the damage caused by the pest or pests to production and to conservation.
   c. Gather and assess other relevant planning documents such as, recovery plans for threatened species and property management plans. Identify any key constraints that may prevent the plan being put into operation and identify all the key stakeholders.
   d. Develop the most appropriate pest management plans for each of the management units.

Implementing effective and humane pest animal control programs requires a basic understanding of the ecology and biology of the targeted pest, other species that may be affected directly (non-targets) or indirectly (e.g., prey species) by a control program. Managers should take the time to make themselves aware of such information by reading the recommended texts included in this document.

The NSW *Biosecurity Act 2015* and pest animal management

From 1 July 2018, the management of pest animals in NSW needs to account for the requirements and obligations under the NSW *Biosecurity Act 2015*. Everyone in NSW who deals with pest animals, including land managers (public and private), recreational land users, other community members and even visitors to the state must manage those pest animals where they present a risk to biosecurity in NSW.

There are some specific requirements relating to some pest species outlined under the Biosecurity Regulation 2017. For example, under the Biosecurity Regulation, it is illegal for a person to keep, move or release a feral pig, wild rabbit, feral deer or European red fox.

A number of documents are available to help land managers and other community members to understand which pest animals they must manage and how. Central to these are the Regional Strategic Pest Animal Management Plans that set out the requirements for managing the impacts of pest animals.

Specific members of the Local Land Services' team can investigate if they suspect a person or organisation is not managing pests properly and are able to provide educational material outlining the biosecurity risks presented by the pest animals, and management actions that must be taken to manage the risk posed. If appropriate management action is not taken to

manage the pest animals, trained and authorised staff from Local Land Services can undertake enforcement action.

Animal welfare and humaneness

Pest animals continue to cause significant damage and risks to the environment, agricultural production and to public health. Each year hundreds of thousands of pest animals are trapped, poisoned, shot or otherwise destroyed because of the harm they cause [12]. For most people in today's society the management of pest animals is considered acceptable provided that such management is *humane* and *justified* [13]. However, some deficiencies need to be addressed, inhumane techniques replaced and new, more humane, alternatives developed. For further detail refer to RSPCA Policy E02 *Management of wild animals*.

The humaneness of an individual pest control technique is highly dependent on the way the technique is applied and on the skill of the operator involved. Attention to details such as timing and coordination of control, bait delivery, lethal dose rates, type or calibre of firearm and ammunition have significant effects on animal welfare and target outcomes of control programs. By standardising the way control methods are applied, many of the negative welfare impacts can be reduced or even prevented. This document (COP and SOPs) has been specifically developed to address this issue.

It also contains a summary of the results of humaneness assessments for all individual techniques included as SOPs. The full assessments can be found on the PestSmart website (https://www.pestsmart.org.au/). These assessments were carried out using a model developed by Sharp and Saunders (2008, 2011)[14,15]. The model provides a practical, general means of assessment that can be applied to any control technique. The goal of humaneness assessment is to evaluate the impact of a control technique on individual animals and to use this assessment to determine which methods are more or less humane compared to others.

Assessment of humaneness using the Sharp and Saunders model is based on the five domain approach to welfare assessment as developed by Mellor and Reid (1994)[16]. According to this approach, potential or actual welfare compromise is identified in four physical or functional domains and one mental domain:

1: Nutrition – water or food deprivation, malnutrition.

2: Environmental – exposure to excessive heat or cold.

3: Health – disease or physical injury.

4: Behaviour – spatial or interactive restriction.

5: Mental or Affective State – includes impacts from the first four domains (e.g., thirst hunger, anxiety, fear, nausea, pain, boredom, depression, frustration, loneliness, distress) and any other cognitive awareness of external challenges leading to negative affective states.

When considering the humaneness or welfare impact of a control method, impacts are assessed in relation to nutrition, the animal's environment, its health or functional status, its behavioural needs and its overall mental status. As described by Sharp and Saunders (2008, 2011)[14, 15] and Beausoleil and Mellor (2015)[17] when data is available, actual impacts in each of the four domains are evaluated using a range of quantitatively assessed changes in behaviour and physiology along with pathophysiological indicators of functional disruption.

Compromise in one or all of the physical domains is then used to infer potential negative affective impacts in the fifth domain. As welfare is generally considered to be a state within an animal that most directly relates to what the animal experiences, the overall impact of a control method on the animal's welfare generally reflects impacts in Domain 5. When the model is applied to a range of different methods, these can be compared, thus allowing an informed decision on control method choice based on relative humaneness.

Humaneness assessment using the Sharp and Saunders model follows a two-part process: Part A examines the impact of a control method on overall welfare and the duration of this impact; and Part B examines the effects of the killing method on welfare (so is only applied to lethal methods). For example, with live trapping followed by shooting, both Part A and Part B are applied, but with fertility control only Part A is applied.

In Part A, overall welfare impact is assessed by looking at the impacts in each of the five domains as described above. In Part B, the killing method is assessed by examining the level of suffering and the duration of suffering based on the time to insensibility based on the criteria described by Broom (1999)[9]. Matrices are then used to determine the score for each part and then the two scores are combined to obtain the overall humaneness score.

Feral donkey management

Background

The first donkeys (*Equus asinus*) were brought to Australia in 1866. In the 1920s and 1930s large numbers of feral donkey populations were reported and by 1949 the donkey was sufficiently numerous to be declared a pest in Western Australia. The feral donkey is well-adapted to arid regions and is most abundant in the Kimberley pastoral district of Western Australia and the Victoria River area of the Northern Territory. Lower densities are found in the semi-arid regions and deserts of central and Western Australia. Although absolute numbers are difficult to estimate, there were thought to be between 2 and 5 million feral donkeys in Australia in 2011[18].

Feral donkeys are present in parts of far western NSW[19], and although not widespread, can be locally abundant and form large groups. Government agencies work with land managers to contain existing feral donkey populations, with the aim of reducing their agricultural and environmental impacts and preventing the establishment of other populations across the region.

Feral donkeys are both grazers and browsers and feed during the day on a wide variety of plants. In northern Australia, large mobs of up to 500 animals congregate on residual sources of water and favoured grazing areas during the dry season. During the wet season they disperse in groups of less than 30 individuals to take advantage of the abundant growth.

Feral donkeys are seasonal breeders, with births occurring between September and February. Females reach sexual maturity in their second year and can produce one young per year under favourable conditions. In northern Australia, more than 75 per cent of females breed annually. Annual population growth can approach 25 percent under good seasonal conditions or when recovering from a culling program. As a population recovers and higher densities are attained, females continue to breed but their capacity to rear their offspring declines.

Donkeys may compete with stock for water during the dry season. They congregate around watering points and can deny stock access. They may also compete with stock for pasture and denude ground cover and contribute to erosion. The effect of donkeys on native species is unknown but habitat destruction may be a problem.

A small number of feral donkeys are mustered or trapped and sold for pet meat, as livestock guardian animals and some are domesticated. However, the primary management tool used in NSW is aerial shooting. Despite considerable control efforts, feral donkey problems are continuing.

For further information please see:

- PestSmart: https://pestsmart.org.au/toolkits/feral-donkeys/

Primary and supplementary control techniques

Pest control programs must be cost-effective. The techniques used within a control program need to be complimentary to each other and lead to a maximum impact reduction, which often requires reducing pest animal densities to low levels over a large scale and maintaining this level of population suppression indefinitely. This leads to a situation where the need for ongoing control is minimised and rates of re-invasion reduced. Follow-up control programs, where the initial reduction is maximised, are also much cheaper to implement as the target population is relatively small. Control techniques can be seen as primary or supplementary based on the following general principles.

Primary techniques are those that can achieve rapid pest population knockdown over large areas in a cost-effective way. Supplementary techniques are generally only effective in helping to maintain pest population suppression once densities have already been reduced to low levels. For example, in the management of feral donkeys, aerial shooting is the primary method of control and supplementary techniques are used as follow-up, e.g., trapping. For effective control regionally appropriate selection of at least one primary control technique and one supplementary control technique should be utilised to help satisfy general biosecurity duty requirements.

Spatial scale is also important. To achieve cost efficiencies and depending on the movement behaviour of the target pest, the area under control may need to be a collaboration of many adjoining land managers.

Poorly executed control programs can simply become sustained culling operations that do little to achieve long-term successful outcomes. This in turn can lead to sporadic implementation of crisis management programs where pest numbers have become unacceptable, but the outcome usually becomes sub-optimal. A rotation of primary and supplementary techniques can also be important. Pest animals can become familiar to a particular technique (e.g., ground shooting) that may require switching to another lethal method (e.g., aerial shooting). Another factor to consider is timing of control operations. Time of the year can mean targeting a biological weakness in the pest animal (e.g., a period of food and water stress). Alternatively, application of control can align with the need for the commodity to be protected when it is most vulnerable.

Feral donkey management methods

Techniques for the control of feral donkeys mostly include aerial shooting and ground shooting and sometimes exclusion fencing. 'Judas' donkeys fitted with GPS collars may be used to help locate difficult to find groups of donkeys. Trapping at water and mustering are also potential methods of control; however, they have variable effectiveness and can be expensive and time-consuming over large areas. Other measures such as fertility control and immobilisation followed by lethal injection could be used; however, these methods are not practical or unavailable.

Different techniques are best suited to particular situations depending on issues such as mob size and age structure, geography and season. Aerial culling by properly trained and accredited shooters using approved procedures is considered to be a humane way to reduce feral donkey numbers over large areas. The process is quick and eliminates the stresses of mustering, yarding and transportation for slaughter. Cost-effectiveness, humaneness and efficacy for each control technique are useful in deciding the most appropriate strategy. A brief evaluation of the humaneness of control techniques follows:

Humaneness of control techniques

Shooting

Ground shooting

Shooting can be a humane control method when: it is carried out by competent, accurate and responsible shooters; the correct combination of firearm and ammunition and optimum shot placement are used; the target animal can be clearly seen and is within range; and all wounded animals are promptly located and euthanased humanely. Head shots are the preferred shot placement when prevailing conditions are appropriate, e.g., stillness of target.

Dependent young will experience significant negative welfare impacts if they are not euthanased humanely after their mother is shot. Shooting can also have negative effects on surviving animals in social groups.

Aerial shooting

All aerial shooting programs in NSW managed by Government agencies must adhere to the instructions and requirements of the NSW Feral Animal Aerial Shooting Team (FAAST) Manual[20]. Private or commercial operators that are not conducting shooting as part of a FAAST program must still adhere to all relevant regulatory and legislative requirements.

Aerial shooting of feral donkeys from a helicopter can be a humane control method when: it is carried out by highly skilled and experienced shooters and pilots; the correct firearm, ammunition and shot placement is used; and wounded animals are promptly located and euthanased.

With shooting, initial shots to the chest do not render the animal instantaneously insensible and time to death is slower whereas a well-placed initial shot to the head to destroy the brain will result in instantaneous insensibility and a quicker death. However, with aerial shooting, chest shots are generally preferred for smaller species since the heart and lungs are the largest vital area and accurate shots to the head to destroy the brain can be difficult to achieve. This is particularly the case for species that move quickly and erratically.

Head shots should only be attempted when conditions are ideal to avoid wounding. Shooting at other parts of the body (outside of head (brain) and chest (heart-lung) target zones) is unacceptable.

Compared with ground shooting, aerial shooting allows the delivery of multiple shots in quick succession to ensure a rapid death. There is also much better opportunity for rapid follow-up shots for any injured animals. There must be a minimum of two shots per animal – one of which must be a chest shot.

Exclusion fencing

The use of exclusion fencing is generally regarded as a humane, non-lethal alternative to lethal control methods. However, fencing of large areas is expensive to construct and maintain and is difficult in rugged terrain. Strategically placed fences can direct donkeys from areas where they are difficult to control, such as hilly country, into areas where they are more easily controlled. They can also restrict access to sensitive areas (e.g., Aboriginal places of significance), and exclude donkeys from some water points to concentrate them at others where they can be trapped. Unfortunately, in some situations where donkeys are denied access to their regular waterholes, they may not move on to an alternative water supply and can die of thirst. Therefore regular inspections are necessary so that any lingering donkeys can be shot or allowed to drink. Fences need to be designed appropriately for the animals that are being excluded, as well as those being enclosed, to maximise efficacy and reduce animal welfare impacts.

Although fencing can act as a barrier to donkeys, it can also have negative effects on non-target species (such as kangaroos and emus) that are excluded from or contained within a fenced area. Fences will prevent access to familiar sources of food, water and shelter and potentially disrupt social groups and alter natural dispersion. Entanglement in fences can also cause significant injuries and death (or electrocution with electric fences) and they can prevent the movement of animals to safer areas during bushfires or flooding.

Refer to the following RSPCA website for further perspectives on the humaneness of exclusion fencing:

https://kb.rspca.org.au/knowledge-base/what-are-the-risks-to-wildlife-associated-with-barrier-and-cluster-fencing/

For further information on pest exclusion fence design, please refer to sites such as:

https://www.wool.com/globalassets/wool/sheep/pest-animals/wild-dog-exclusion-fencing--australian-wool-innovation/kondinin-group-research-report---exclusion-fencing.pdf

https://www.wool.com/on-farm-research-and-development/sheep-health-welfare-and-productivity/pest-animals/wild-dog-exclusion-fencing/

Similar pest fence designs are also available from the websites of commercial fencing manufacturers.

Mustering for capture and removal

This technique is not commonly used since feral donkeys are said to be difficult to muster because of their habit of breaking away when driven. Mustering will inevitably cause stress and anxiety in the donkeys and has the potential to cause serious injury. When mustering is used, it should be carried out when conditions are cool or mild to avoid heat stress. Feral donkeys should be handled quietly without force to avoid panic and trampling. The tail end of the mob should set the pace rather than being forced to keep up with the leaders. Distances that the donkeys have to be mustered should be kept to a minimum, e.g., by using portable yards.

Trapping at water

This technique is not commonly used because in many areas donkeys have access to numerous water sources. When trapping is used, it may not be as stressful and potentially dangerous as mustering is, given that the donkeys are not driven into the trap but go in quietly of their own accord. However, there is still the potential for welfare problems during the process of holding, handling and transferring the donkeys from the trap to a vehicle for transport.

To minimise the possibility of starvation and stress, all traps must be inspected at least once daily once they are set. Donkeys must be provided with water at all times and appropriate feed must be made available if captured donkeys are to be held more than 24 hours. More frequent checking may be necessary during extreme weather conditions. Traps should be constructed to provide donkeys with shade and shelter and should be large enough to avoid overcrowding.

Capture and handling should be avoided when females are foaling or have dependent young at foot. Foals that do not accompany their mother into the trap may be separated and die of starvation or if trapped can get trampled underfoot.

Donkey traps can have a negative impact on native non-target species (especially macropods) by inadvertently trapping them and also by excluding them from water sources. This impact can be minimised by using a suitable yard design that incorporates fencing material and gates that allow wildlife to escape if trapped. Also, the fencing used to protect alternative water sources from donkeys when trapping should allow access to wildlife species.

Holding donkeys in paddocks or yards

Mustering, capture, handling and holding increase stress in feral donkeys as they are not used to confinement or close contact with humans. Consequently, these procedures can result in mismothering, feeding disruption, social disruption, heat stress and also abortion in heavily pregnant females. Metabolic, nutritional and parasitic diseases and also changes in environmental conditions are common causes of mortality and morbidity in confined feral donkeys, especially when confined for long periods.

Donkeys in a confined space require increased husbandry to ensure that they have adequate food and water and are not exposed to disease. Donkeys should be drafted to minimise

dominance behaviour when confined to holding yards or paddocks. Where possible donkeys should be drafted and separated according to gender, age and weight.

Transport of captured or mustered donkeys

The removal of trapped feral donkeys off-property for either sale to abattoirs or for other management, involves considerable additional stress to animals. Donkeys captured by mustering and confined to yards or a paddock should be allowed a minimum of 48 hours rest with adequate shelter, food and water before they are transported long distances. It is important to ensure that all donkeys have fed and watered and are fit to load prior to transportation.

Newborn (i.e. less than 7 days old) foals must not be transported unless necessary; however, they must not be left to fend for themselves and must be humanely euthanased to prevent suffering.

General standards and requirements for the transportation of livestock can be found in the Australian Animal Welfare Standards and Guidelines — Land Transport of Livestock [21].

Use of Judas donkeys

Capture, handling and restraint of donkeys for use as Judas animals can cause anxiety and sometimes pain or injury if they struggle to escape. Repeatedly being isolated and having to find other donkeys may cause fear and anxiety as donkeys are highly social animals. Tracking and the nearby shooting of cohorts may also be another source of distress.

The lightest collar/transmitter available should always be used (<5% of the body weight of the animal). The collar must be properly fitted for the comfort and safety of the animal. It should fit snugly enough to prevent it from coming off or chafing the neck, but it must also be sufficiently loose as to be comfortable and not interfere with swallowing or panting. Efforts should be made to reduce the possibility of the collar getting caught up in vegetation. The fitting of a collar to a feral donkey is not recommended without the use of sedatives. This makes the technique less suitable for routine management and is perhaps best suited as a research technique. A SOP for this technique is therefore not included in this document.

Fertility control

Fertility control is seen by some as a preferred method of broad-scale feral donkey control as it offers a potential humane and target-specific alternative to lethal methods. However, hormones to control fertility are difficult to administer to large numbers of free-roaming donkeys and there is no long-acting or permanent drug presently available; therefore annual treatment would be required. Also, where immediate and large-scale impact reduction is required, fertility control alone would be ineffective due to the long life of donkeys. Consequently, its application is not currently feasible for most Australian conditions where feral donkey numbers are high and their domain extensive.

Table 1: Humaneness, efficacy, cost-effectiveness and target specificity of feral donkey control methods

Control technique	Acceptability regarding humaneness* and Relative humaneness score (Part A [1-8], Part B [A-H]**)	Efficacy	Cost-effectiveness	Target Specificity	Comments
Aerial Shooting *Primary*	Acceptable Score: 3A-4A (head), 3C-4C (chest)	Effective	Relatively expensive. Can be cost-effective when donkey density is high	Target-specific	Suitable for extensive areas and inaccessible country. Most effective way of achieving quick, large scale culling.
Ground shooting *Supplementary*	Acceptable Score: 3A (head), 3D (chest)	Not effective	Not cost -effective	Target-specific	Labour intensive, only suitable for smaller scale operations. Impractical in good seasons when there is lots of water around and in rugged country where large scale control is required.
Mustering *Supplementary*	Acceptable Score: N/A	Limited. Donkeys difficult to muster	Cost-effective. Can be expensive if helicopters are used.	Target-specific	Efficient and cost-effective where donkeys are present in high densities, terrain is relatively flat and donkey prices are high. Welfare and biosecurity concerns associated with capture and transport of donkeys. More costly than trapping.

Control technique	Acceptability regarding humaneness* and Relative humaneness score (Part A [1-8], Part B [A-H]**)	Efficacy	Cost-effectiveness	Target Specificity	Comments
Trapping at water *Supplementary*	Acceptable Score: N/A	Limited	Cost-effective	Can have an impact on non-target species. Trapped non-target species must be removed as quickly as possible to avoid undue stress. Traps at natural water holes may restrict access by native species. Donkey traps should be designed so that most wildlife can go through fences or under gates.	Cannot be used in some areas where there are numerous watering holes. Most effective when conditions are dry and there are few waterholes around where donkeys can drink. Cost-effective method of capture.
Exclusion fencing *Supplementary*	Acceptable Score: N/A	Limited	Expensive	Can be in certain situations	Expensive, therefore impractical for large scale application. Fencing can be effective for small, critical (economically or environmentally) areas, though the maintenance costs are high.
Use of Judas donkeys *Supplementary*	Acceptable Score: N/A	Effective	Relatively cost-effective compared with searching for donkeys from helicopters or on foot	Target-specific	Can be a useful adjunct to other control methods. Effective if local eradication is the aim. Requires expensive equipment and skilled operators.
Fertility control *Not available*	Acceptable	Not currently effective	Expensive	Target-specific	Not currently available. Not practical for large scale control.

Notes for Table 1.

* Acceptable methods are those that are relatively humane when used correctly in accordance with the applicable Standard Operating Procedure. Conditionally acceptable methods are those that, by the nature of the technique, may not be consistently humane. There may be a period of poor welfare before death.

Methods that are not acceptable are considered to be inhumane – the welfare of the animal is very poor before death, often for a prolonged period

** From assessments conducted using a model to assess the relative humaneness of pest animal control methods (Sharp and Saunders 2011)[14]. Humaneness score (AB) consists of Part A - welfare impact prior to death, scale of 1 – 8, less suffering to more suffering and Part B - mode of death, scale of A – H, less suffering to more suffering. For assessment worksheets and matrix of relative humaneness scores see: https://pestsmart.org.au/toolkit-resource/feral-donkey-control-methods-humaneness-matrix/.

N/A = Humaneness score not available.

Control techniques are classified as primary (maximum effect), supplementary (follow-up) or 'not available'. In some situations, techniques can alternate between primary and supplementary.

Relevant legislation

All those involved in vertebrate pest control should familiarise themselves with relevant aspects of the appropriate federal and state legislation. The table below lists relevant legislation. This list is by no means exhaustive and was current at time of writing.

Commonwealth	*Agricultural and Veterinary Chemicals Code Act 1994* *Environment Protection and Biodiversity Conservation Act 1999*
New South Wales	*Biodiversity Conservation Act 2016* *Biosecurity Act 2015* *Game and Feral Animal Control Act 2002* *Local Government Act 1993* *Local Land Services Act 2013* *National Parks and Wildlife Act 1974* *Pesticides Act 1999* *Prevention of Cruelty to Animals Act 1979*
Other relevant legislation	*Civil Aviation Act 1988* *Civil Aviation (Carriers' Liability)* *Dangerous Goods (Road and Rail Transport) Act 2008* *Firearms Act 1996* *Work Health and Safety Act 2011*

Note: copies of the above legislation and relevant regulations may be obtained from federal and state publishing services.

Further information

Local Land Services	https://www.lls.nsw.gov.au/biosecurity/pestplan
NSW National Parks and Wildlife Service	https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals
NSW Department of Primary Industries	https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests
NSW Environment Protection Authority	https://www.epa.nsw.gov.au/your-environment/pesticides/pesticides-nsw-overview/pesticide-control-orders
PestSmart Connect	https://www.pestsmart.org.au/

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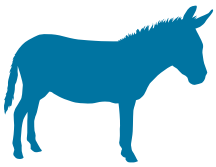
Standard Operating Procedures

- NSWDON SOP1 Ground shooting of feral donkeys
- NSWDON SOP2 Aerial shooting of feral donkeys

For guidance on regional application of control techniques, contact your nearest Local Land Services: https://www.lls.nsw.gov.au/



NSWDON SOP1
Ground shooting of feral donkeys

Background

Ground shooting is best suited to accessible and relatively flat areas where there are low numbers of problem donkeys. It is also used for euthanasia of sick or injured donkeys. It involves the shooter approaching a group of donkeys on foot with the intention of culling all the animals in the group. Shooting from a helicopter is considered a more humane control method as mobile wounded animals can be promptly located and killed. It is also a more effective method of quickly reducing feral donkey populations. Refer to *NSWDON SOP2: Aerial shooting of feral donkeys*.

Shooting can be a humane method of destroying feral donkeys when it is carried out by experienced, skilled shooters, the animal can be clearly seen and is within range, the correct firearm, ammunition and shot placement is used, and wounded animals are promptly located and killed.

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

Individual SOPs 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

- Ground shooting should only be used in a strategic manner as part of a coordinated program designed to achieve sustained, effective control.
- Ground shooting is not suitable in inaccessible or rough terrain where sighting of target animals and accurate shooting is difficult, or when wounded animals cannot easily be followed up and killed.
- Ground shooting is time consuming and labour intensive and is therefore not considered an effective method for large-scale control.
- The optimal period for ground shooting is during dry seasons or droughts, when many groups of donkeys are forced to congregate around areas with limited access to water and feed. Shooting during drought reduces the number of donkeys that would otherwise die slowly of hunger or thirst.

- Sporadic shooting from the ground may teach donkeys to avoid certain areas, making overall control difficult.
- Shooting of feral donkeys 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 legislative requirements (*See Firearms Act 1996*, Firearms Regulation 2017).

Animal welfare implications

Target animals

- The humaneness of shooting as a control technique depends almost entirely on the skill and judgement of the shooter. If properly carried out, it can be a humane method of killing feral donkeys.
- Shooting must be done with the appropriate firearms and ammunition and in a manner that aims to cause rapid insensibility and quick death.
- When shooting an animal, it must be clearly visible and able to be killed with a single shot due to the difficulty of follow-up shots from the ground, particularly in difficult terrain. A solid rest or support should be utilised to ensure accurate shot placement.
- Only head (brain) or chest (heart-lung) shots must be used. A well-placed shot to the head to destroy the brain will result in instantaneous insensibility and a quicker death compared to a well-placed shot to the chest. Chest shots to destroy the heart can present challenges for accurate placement and may not always result in rapid death. For this reason, under ideal conditions, head shots are preferred over chest shots, however in some situations (e.g., where: close approach is not possible; the head is obstructed or cannot be targeted; the animal is already wounded; or a second 'follow-up' shot can be quickly taken), because the chest is a larger target, a chest shot may be the most suitable option. Shooting at other parts of the body is unacceptable.
- Correctly placed head shots cause brain function to cease, and insensibility will be immediate. Death from a shot to the chest is due to massive tissue damage and haemorrhage from major blood vessels. Insensibility will occur sometime after, from a few seconds to a minute or more. If a shot stops the heart functioning, the animal will lose consciousness very rapidly.
- The shooter must be certain that each animal or defined group of animals is dead by physical inspection before another is targeted.
- Wounded donkeys must be located and killed as quickly and humanely as possible with a second shot, preferably directed to the head. If left, wounded animals can escape and suffer from pain and the disabling effects of the injury.
- Culling programs should be timed to minimise the risk of orphaning dependent foals or causing abortion when females are in late pregnancy.
- If lactating females are shot, reasonable efforts should be made to find dependent young and kill them quickly and humanely with a shot to the brain.

- Dogs should not be involved in any phase of donkey culling programs. Donkeys are easily distressed and frightened by dogs and may injure themselves by running into fences and other obstacles.

Non-target animals

- Shooting is relatively target specific and does not usually impact on other species. However, there is always a risk of injuring or killing non-target animals, including livestock, if shots are taken at movement, colour, shape, sound or when spotlighting, eye reflection ('eye shine'). Only shoot at the target animal once it has been positively identified and never shoot over the top of hills or ridges.
- Shooting should be used with caution around lambing paddocks as it may disturb the lambing flock and cause mismothering. Also avoid paddocks containing sensitive livestock, e.g., horses. They are easily frightened by spotlights and gunshots and may injure themselves by running into fences and other obstacles.

Workplace health and safety considerations

- Firearms are hazardous. Everyone should stand well behind the shooter when an animal is being shot. The line of fire must be chosen to prevent accidents or injury from stray bullets or ricochets.
- Shooting from a vehicle is potentially dangerous. An agreed safety procedure between the shooter and others in the vehicle must be in place to ensure that people do not enter the field of fire or disturb the taking of a shot.
- 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 feral donkey carcasses as they may carry diseases such as meliodosis, ringworm and mange that can affect humans and other animals. Routinely wash hands and other skin surfaces after handling carcasses. Carcasses can be heavy, so care must be taken when lifting/dragging.

Equipment required

Firearms and ammunition

- Large-calibre, high-powered centrefire rifles fitted with a telescopic sight must be used.

- The minimum firearm and ammunition requirements for the ground shooting of feral donkeys are:
  - calibre: .308 inches
  - bullet weight: 150 grain
  - muzzle energy: 2649 ft-lbs.

- Examples of acceptable firearm and ammunition combinations with maximum shooting distances are included in the table below:

Cartridge	Bullet weight (gr)	Muzzle velocity (ft/sec)	Muzzle energy (ft-lbs)	Maximum distance (metres)
.308 Winchester	150	2820	2649	200
.300 Win Mag	150	3275	3572	200

Source: https://press.hornady.com/assets/pcthumbs/tmp/1410995911-2019-Standard-Ballistics-Chart.pdf

- Ammunition must expand and should be heavily constructed, controlled expansion or bonded core projectiles.
- Shotguns are NOT recommended for use on feral donkeys. If they must be used in an emergency situation, rifled slugs are to be used as ammunition.
- The accuracy and precision of firearms should be tested against inanimate targets prior to the commencement of any shooting operation.

Other equipment

- Lockable firearm box.
- Lockable ammunition box.
- Personal protective equipment (hearing and eye protection).
- First aid kit.
- Appropriate maps identifying access trails and land tenure.

Procedures

- Donkeys must NOT be shot from a moving vehicle as this can significantly detract from the shooters' accuracy.
- Ensure you are in a firm, safe and stable position before taking a shot.

Target animal and shot placement

- The objective is to fire at the closest range practicable in order to reduce the risk of non-lethal wounding. Accuracy with a single shot is important to achieve an immediate, and therefore, humane death.

- A donkey should only be shot at when:
  - it is stationary and can be clearly seen and recognised;
  - it is within the effective range of the firearm and ammunition being used; and
  - a humane kill is probable.
  - if in doubt, do NOT shoot.
- Ensure there are no other donkeys behind the target animal that may be wounded by the shot passing through the target.
- Although donkeys are comparatively large animals, the vital areas targeted for clean killing are small. Shooters should be highly skilled and experienced at shooting and be able to accurately judge distance, wind direction and speed and have a thorough knowledge of the firearm and ammunition being used.
- The shooter must aim either at the head, to destroy the major centres at the back of the brain near the spinal cord, or at the chest, to destroy the heart, lungs and greater blood vessels. This can be achieved by one of the following methods see Figure 1.

Head shot

Frontal position (front view)

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. The flat facial conformation and the extensive sinus structure of the mature donkey skull can make penetration of the projectile into the brain difficult with this shot. It is therefore more suited to younger animals and instances where there is only a short distance between the shooter and animal.

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.

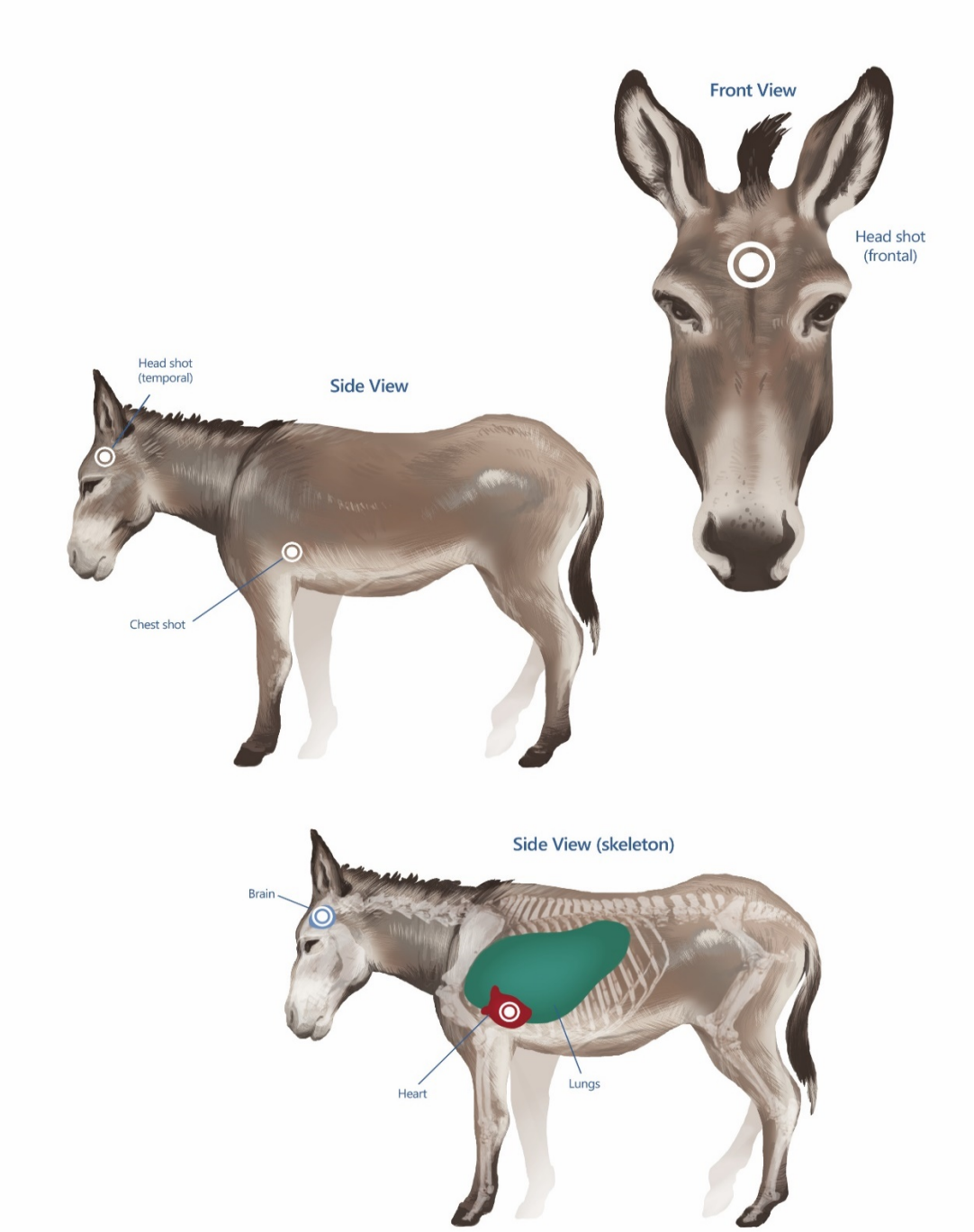
Chest Shot

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 behind and below the shoulder at the point immediately behind the elbow. This angle is taken because the scapula provides partial protection of the heart from a direct side-on shot.
- Shooting of individuals should stop when the flight response of the herd limits further accurate shooting.

- In family groups containing a mature jack with jennies and foals, the jack should be shot first. This tends to confuse the rest of the family group, slows their retreat and increases the chances of culling them. Unweaned foals should be the next targeted to prevent them being separated from the mob and therefore making them difficult to find.
- The target animals in a group should be checked to ensure they are dead before moving on to the next group of animals. Always approach the animal from the dorsal (or spinal) side to prevent injury from the involuntary kicking legs. Death of shot animals can be confirmed by observing a combination of the following:
  - no heartbeat
  - no breathing
  - no corneal reflex (no blinking when the eyeball is touched)
  - 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.

Figure 1: Shot placement for the ground shooting of feral donkeys



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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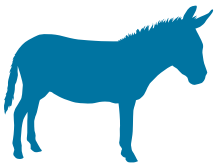


NSWDON SOP2
Aerial shooting of feral donkeys

Background

Aerial shooting of feral donkeys from a helicopter is used for large-scale population reductions in remote and/or inaccessible areas. It is an effective and relatively cost-effective method of quickly reducing feral donkey populations. Teams involved in shooting from a helicopter require (at minimum) a shooter (seated immediately behind the pilot), an observer and the pilot. The observer or navigator primarily looks for and reports hazards plus keeps the helicopter within the approved shooting area, identifies target animals for the pilot, and records locations, species and animals killed. The pilot aligns the helicopter for the optimum shot, advises the shooter when to shoot and can also confirm kills and advise on requirements of additional shots for humaneness purposes.

Aerial shooting is a humane method of killing feral donkeys when it is carried out by experienced and skilled shooters and pilots; the animal can be clearly seen and is within range; the correct firearm, ammunition and shot placement is used; and wounded animals are promptly located and killed.

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

Individual SOPs 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

- All aerial shooting programs conducted by Government Agencies - National Parks and Wildlife Service (NPWS) or Local Lands Services (LLS) - in NSW must be planned and implemented under the NSW Feral Animal Aerial Shooting Team (FAAST) framework and in accordance with the procedures of the NSW FAAST Manual.
- Private or commercial operators in NSW that are not conducting shooting as part of a FAAST program must still adhere to all relevant regulatory and legislative requirements.
- Shooting of feral donkeys should only be performed by competent, trained personnel who have been tested and accredited for suitability to the task and marksmanship and who hold the appropriate licences and accreditation (e.g., accredited through the FAAST training course or other approved competency, e.g., AHCPMG311 – Use firearms

for pest control activities from aircraft, AHCPMG304 – Use firearms to humanely destroy animals).

- Aerial shooting should only be used in a strategic manner as part of a coordinated program designed to achieve sustained effective control. A shooting operations plan must be prepared and approved by the relevant agency for each FAAST aerial shooting program.
- Aerial shooting is a particularly cost-effective method where donkey density is high. Costs per animal increases greatly as donkey numbers decrease. Also, donkeys learn to avoid helicopters, so successive shoots can become less effective.
- Aerial shooting is effectively used to control donkeys in inaccessible or rough terrain. In areas of heavy cover (e.g., vegetated creek lines, woodlands and forest), effectiveness is limited since donkeys might be concealed and difficult to locate from the air. However, advances in thermal imaging technology is helping to reduce these constraints.
- The optimal period for aerial shooting is during dry seasons or droughts when many groups of donkeys are forced to congregate around remaining areas of water and feed. Shooting during drought reduces the number of donkeys that would otherwise die slowly of hunger or thirst.
- For safety reasons, shooting from a helicopter must not be undertaken in adverse weather conditions (e.g., strong wind, rain, low cloud, hot days that cause unpredictable thermals).
- Operators (including helicopters, pilots, shooters and navigators) must hold the appropriate licences and permits and be skilled and experienced in aerial shooting operations. Where managed by Government Agencies they must also be approved by FAAST.
- Helicopter operators must have approval from the Civil Aviation Safety Authority to undertake aerial shooting operations (carriage and discharge of firearms in an aircraft).
- Aerial shooting should comply with all relevant federal and state legislation, policy and guidelines.
- Storage use and transportation of firearms and ammunition must comply with relevant legislative requirements.

Animal welfare implications

Target animals

- The humaneness of aerial shooting as a control technique depends on the skill and judgement of both the shooter and the pilot. If properly done, it can be a humane method of killing feral donkeys.
- Only chest (heart-lung) or head (brain) shots must be used. The initial chest (heart-lung) shot, or head (brain) shot (taken only when conditions are favourable for accurate shot placement) must be followed up with a further accurate heart-lung shot once the animal has collapsed. This deliberate 'overkill' policy is aimed at ensuring a quick death given the difficulty in confirming death from the air.

- Death from shots to the chest is due to massive tissue damage and haemorrhage from major blood vessels. Insensibility will occur sometime after the shot, ranging from a few seconds to a minute or more. If a shot stops the heart functioning, the animal will lose consciousness very rapidly. Correctly placed initial head shots cause brain function to cease and insensibility will be immediate.
- In some situations, e.g., when conditions are ideal, an initial head shot will achieve a quick humane death. In other situations, an initial chest shot will be more appropriate.
- Shooting must be conducted in a manner that maximises its effect, thus causing rapid death. This requires the use of appropriate firearms and ammunition.
- A target animal can only be shot when:
  - it is clearly visible and recognised;
  - it is within effective range of shooter and the firearm and ammunition being used; and
  - a humane kill is probable. If in doubt do NOT shoot.
- The pilot must offer the shooter the best opportunities for a humane kill. This includes maintaining a stable shooting platform and to ensure that the helicopter is always aligned so that the shooter can maintain accuracy and to avoid shots to unacceptable parts of the body e.g., spine or neck shots. Aerial shooting should not be carried out if the nature of the terrain reduces accuracy resulting in too many wounding shots and prevents the humane and prompt despatch of wounded animals.
- If lactating females are shot, reasonable efforts should be made to find dependent foals and kill them quickly and humanely.
- Aerial shooting programs by their nature must be highly accountable. Apart from maintaining high animal welfare standards, records should be kept of number and location of animals killed, hours flown, ammunition used and fly-back procedures.

Non-target animals

- Shooting is relatively target specific and does not usually impact on other species. However, there is always a risk of injuring or killing non-target animals, including livestock, if shots are taken before an animal has been positively identified.
- Sensitive livestock such as horses and farmed deer are easily frightened by gunshots, helicopter rotor noise, wind etc. and may injure themselves by running into fences and other obstacles. Avoid shooting in areas where these livestock occur or organise the removal of them from the area prior to the shooting program.

Workplace health and safety considerations

- The potentially hazardous nature of aerial shooting requires that safety protocols be strictly followed. Each team member must be aware of and trained in all aspects of helicopter and firearm safety.
- The helicopter pilot must perform a thorough pre-flight briefing with all personnel to establish communication protocols between the shooter and the pilot including pre-shot manoeuvre, commands for firing and emergency procedures.

- Shooting from a helicopter can be hazardous, particularly in areas of rugged topography. The combination of low-level flight, close proximity to obstacles (trees, rocks, and wires) and the use of firearms makes this task extremely hazardous.
- It is essential that ejected ammunition cases do not interfere with the safe operation of the helicopter. It might be necessary to fit a deflector plate (mandatory for FAAST operations) to the firearm to ensure shells are ejected safely.
- Firearm users must strictly observe all relevant safety guidelines relating to firearm ownership, possession and use.
- When not in use, firearms must be securely stored in a compartment that meets state/territory legal requirements. Ammunition must be stored in a locked container separate from firearms.
- Adequate hearing protection should be worn by the shooter and others in the immediate vicinity of the shooter. Repeated exposure to firearm noise can cause irreversible hearing damage.
- Safety glasses are recommended to protect the eyes from gases, metal fragments and other particles.
- Refer to the current version of the FAAST Management and Training System for further details on workplace health and safety requirements.

Equipment required

Firearms

- Semi-automatic .308 calibre rifle
- Reliable, well maintained and capable of good accuracy
- Fitted with a red dot scope with zero magnification.

Ammunition

- Protected point/protected hollow point strongly constructed (e.g., bonded core); 150-180gn.
- Rifle and ammunition combinations with maximum shooting distances are included in the table below:

Cartridge	Bullet weight (gr)	Muzzle velocity (ft/sec)	Muzzle energy (ft-lbs)	Maximum distance (metres)*
.308 Winchester	150	2820	2648	70
.308 Winchester	180	2620	2743	70

Source: https://winchester.com/Products/Ammunition/Rifle/Power-Max-Bonded

*With aerial shooting, most shots are taken at 20 to 50 metres and the maximum range would be about 70 metres

- Specifying ammunition based on species alone rather than individual body mass is problematic. Shooters should select ammunition (from those specified) that best suits

their situation, and which is justifiable on animal welfare grounds. This may particularly apply to situations where multiple species are being controlled in the one operation.

- The accuracy and precision of firearms should be tested against inanimate targets before any shooting operation.
- To provide a backup in case of firearm/ammunition malfunction, at least two functioning firearms must be carried by shooters at all times.

Aircraft

- Aircraft used for aerial shooting should be manoeuvrable, fast and responsive to allow quick follow-up of any wounded animals.
- The FAAST governance structure has compiled a list of helicopter operators, aircraft and pilots who are approved for FAAST operations. Only helicopter operators and aircraft deemed appropriate to the particular task will be selected for FAAST operations. Approved operators can be sourced through the State Air Desk (LLS) or the through the Flight Operations Unit (NPWS).
- GPS (global positioning systems) and computer mapping equipment with appropriate software must be used to assist in the accurate recording of information (e.g., where animals are shot) and to eliminate the risk of shooting in off-target areas.

Other equipment

- Flight helmet (with intercom)
- Fire-resistant flight suit
- Safety harness
- Other personal protective equipment including lace-up boots, gloves and appropriate eye and hearing protection
- Survival kit (including a first aid kit)
- Emergency locating beacon
- Lockable firearm box
- Lockable ammunition box
- Refer to the current FAAST Manual for further information.

Procedures

- Shooters must not shoot at an animal unless they are confident of cleanly killing it without unnecessary pain, distress or suffering. Only chest (heart-lung) or head/brain shots must be used. Shooting at other parts of the body is unacceptable.
- Wounded animals can suffer from pain and the disabling effects of the injury (including sickness due to infection). The cost of ammunition and extra flying time must not deter operators from applying fly-back procedures.
- Where target animals are encountered in a group, they should typically be shot from the back of the group first (the last one shot is furthest away from the helicopter). This

may not always be possible, e.g., when an animal breaks away from a group. In this case the shooter and pilot need to communicate so they focus on the same animal.

- Each animal must be shot at least twice with at least one bullet placed in the heart/lung and before shooting further animals. The only exemption to two shots is when the heart/lung is completely destroyed after the first shot as may be the case with smaller animals.
- The shooter must shoot an animal more than twice in the following circumstances:
  - where directed by the pilot or if the shooter considers it necessary
  - until a bullet is placed in the heart/lung of the animal
  - if the animal doesn't appear dead (signs of life could include attempting to lift its head, any coordinated body movement, eye blinking or breathing).
- Each animal shot must be considered dead by the shooter and pilot, and verbally announced as a 'kill' by the pilot before shooting further animals. This procedure allows for both the shooter and pilot to make a judgement of each animal shot being dead, by the animal exhibiting no sign of life and/or by observing the placement of a bullet into the heart/lung.
- A flyback procedure is required after shooting a group of animals and must be applied at all times. The procedure is as follows:
  - fly back over each animal of the group shot
  - hover over each animal long enough to assess that the animal doesn't exhibit any sign of life
  - where there is any doubt by the shooter or pilot that the animal is dead or that there is a bullet in the heart/lung, the shooter is to shoot further bullet/s into the heart/lung of the animal.
- When large groups of animals are encountered or when groups are encountered in heavy vegetation, the shooter and pilot must consider the ability to conduct an effective flyback procedure. If an effective flyback is likely to be hampered by continuing to shoot further animals in a group or when animals already shot are unlikely to be found, shooting should temporarily cease, and a flyback conducted over animals already shot.
- Target donkeys should be mustered away from watercourses and areas of dense vegetation before being shot, as wounded animals will be difficult to locate if they go down in these locations.
- Once a target is sighted and has been positively identified, the pilot should position the helicopter as close as is safe to the target animal to permit the shooter the best opportunity for a humane kill.
- The pilot should aim to provide a shooting platform that is as stable as possible.

Target animal and shot placement

Placement for head and chest shots are detailed below and in Figure 2.

Head Shots

Poll position (rear view)

When aerial shooting, most head shots will be taken at this position as animals are running away from the helicopter. 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 shot is occasionally used where a second shot needs to be delivered to an injured animal that is lying on its side. The donkey is shot from the side so that the bullet enters the skull at a point midway between the eye and the base of the ear.

Frontal position (front view)

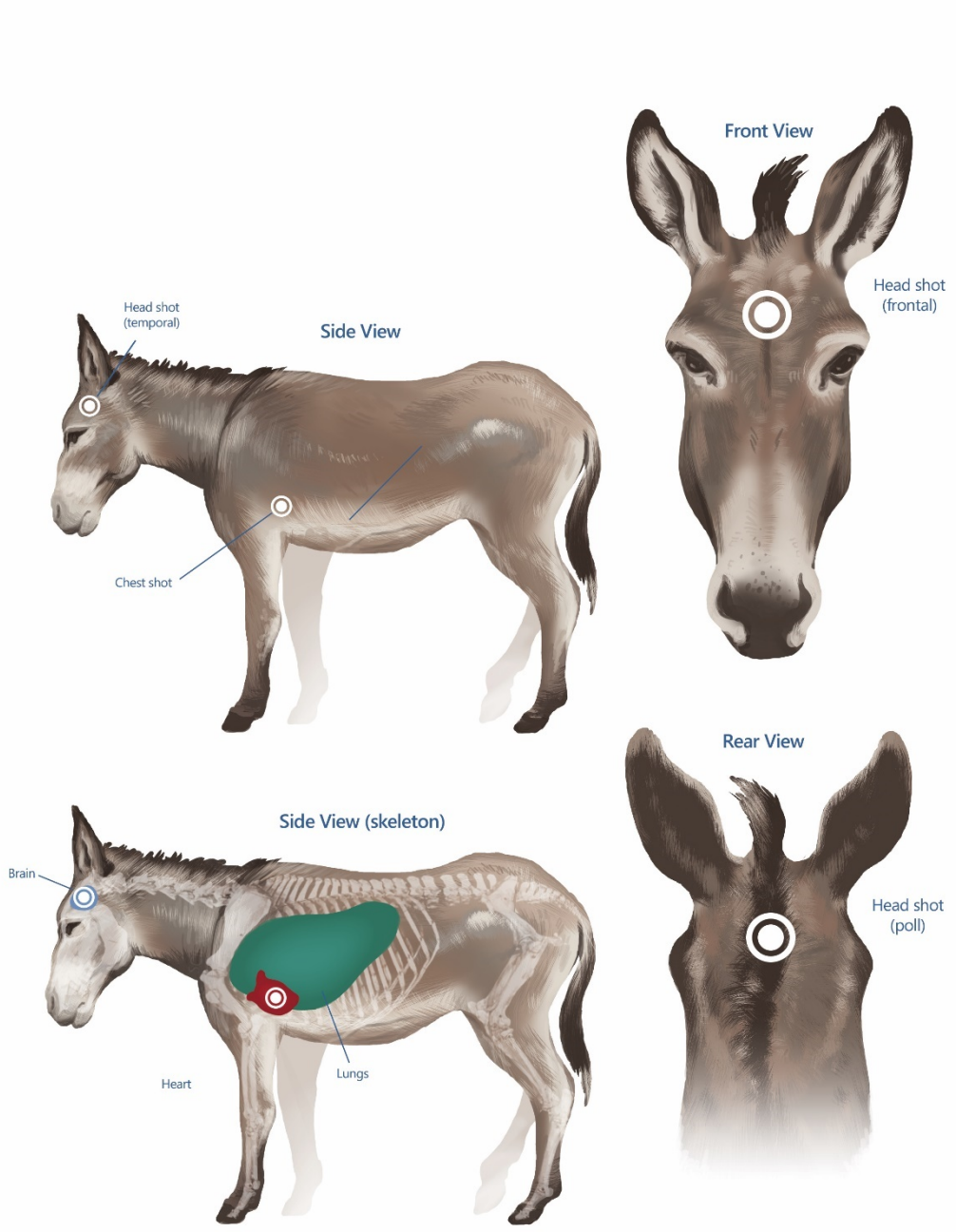
This position is occasionally used when an animal faces the shooter. It should not be used for larger adult donkey due to the heavier bone structure of the front of the skull. The shot is directed at a point of intersection of lines taken from the base of each ear to the opposite eye.

Chest Shot

Side view

The firearm is aimed 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 2: - Shot placement for aerial shooting of feral donkeys



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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