Recreational hunting and animal welfare

AN RSPCA AUSTRALIA INFORMATION PAPER

SUMMARY

The aim of this briefing paper is to present concise information on some of the contemporary animal welfare issues associated with recreational hunting in Australia.

The RSPCA opposes recreational hunting, or the act of stalking or pursuing an animal and then killing it for sport due to the inherent and inevitable pain and suffering caused. Hunting has the potential to result in significant animal suffering: animals are sometimes chased to the point of exhaustion and then killed with methods that do not cause a quick and painless death. Although some hunters may have the skills, knowledge and motivation to minimise the suffering of their prey, many do not and it is inevitable that some animals will endure pain and distress.

With some hunting activities and practices the potential for significant suffering is extremely high, for example where animals are injured but are not retrieved, where dogs are used and are not controlled properly, where hunters lack technical skill, where killing methods do not cause rapid death, or where dependent young are left abandoned. Current regulations and enforcement regimes do not prevent these things from occurring: they are an inevitable consequence of recreational hunting activities.

Policy C5.10 Hunting of animals for sport

10.1 RSPCA Australia is opposed to the hunting of any animal for sport as it causes unnecessary injury, pain, suffering, distress or death to animals involved.

10.2 RSPCA Australia advocates the use of alternatives to the hunting of animals for sport such as target shooting and drag hunting, where dogs chase a non-animal lure or scent.

The term 'hunting for sport' includes but is not limited to, hunting with hounds, coursing, pig hunting, bow hunting, trophy hunting and all forms of recreational shooting (e.g. kangaroo shooting, duck, quail and other game shooting).

Policy E4.2 Hunting of wild animals

RSPCA Australia is opposed to the hunting of any animal for sport.

AN OVERVIEW OF HUNTING

What is hunting?

Hunting is the chasing of or searching for game or other wild animals with the intention of catching or killing them, usually for sport or food.

Why do people hunt?

Although the reasons for hunting are various, the primary motivations for hunting are often classified into four broad categories:

- To gather food or skins, e.g. traditional subsistence hunting.
- For sport or recreation, including to practice specific skills (such as tracking or shooting), to secure a trophy, or as a social activity or custom.
- For environmental, conservation or damage mitigation reasons: hunting to reduce the numbers of pest animals, prevent overpopulation, prevent damage to other animals, plants, or other elements of the environment.
- For commercial harvesting for meat and other products, e.g. kangaroo harvesting, crocodile harvesting.

A survey carried out by the University of Queensland in 2012 gives an insight into what motivates hunters in Australia. The survey asked "What motivates you to hunt?" and participants chose from 8 alternatives and selected all that applied. The responses from 6,884 hunters were:

Table1: What motivates Australian hunters to hunt?

Reason	% Response
Pest control	87%
Recreation	85%
Meat	80%
Conservation	65%
Game management	40%
Trophies	35%
Income	4%
Other	5%

Thus, most Australian hunters state that they hunt to kill pest animals, for recreation and for meat (this could be game meat for the table or for feeding the dogs). However, even though 'controlling pest animals' is given as a significant motivation to hunt, there is no evidence that recreational hunting, as it is currently performed in Australia, is effective at reducing the population or impact of pest animals on a broad-scale level.

Unfortunately, there is no legal requirement to demonstrate shooter competency, so anyone who has a firearm licence can obtain a hunting permit regardless of whether or not they are skilled at shooting animals humanely. There is limited monitoring or enforcement, so many animals may suffer pain and distress after being shot but not killed outright by an unskilled hunter. In addition, children as young as 11 years of age can obtain a hunting permit.

Which animals are hunted?

Most of the animals that are hunted for sport and recreation are introduced species such as feral cats, wild dogs, feral goats, foxes, hares, rabbits, feral pigs, buffalo as well as feral donkeys, horses and camels. The particular species that can be hunted vary between states and territories, as do the licensing and regulation requirements.

Wild deer are hunted as game animals (despite being considered pests in some areas due to their adverse environmental impacts). Some native animals including wallabies and kangaroos can also be hunted in some states. A number of native waterfowl species (such as black duck, wood duck, chestnut teal etc.) and other native birds (corellas, galahs, Australian raven) are also hunted along with native and non-native game birds such as quail, guinea fowl, partridge, peafowl, pheasant, spotted dove, turkeys and magpie geese.

Whether or not a licence is required and, if required, the type of licence varies according to the species hunted and whether it is hunted on private or public land. Where animals are classified as 'game animals' there may also be 'bag limits' which place restrictions on how many animals can be killed by a single hunter in a day.

Is hunting humane?

Hunting has the potential to result in animals suffering significantly including being;

- chased to the point of exhaustion;
- killed with methods that do not cause a quick and painless death;
- injured and left to die a slow, painful death.

Thus distress, injury and suffering are highly likely, if not inevitable.

In the best case scenario;

- a hunted animal would be shot by an experienced, skilled and responsible shooter;
- shooting would not occur during the breeding season;
- the animal would be clearly seen and within range to ensure a lactating female is not shot;
- the correct firearm, ammunition and shot placement would be used;
- the animal would not be chased at all or if necessary stalked quietly without being alarmed prior to shooting;
- the death of the animal would be confirmed as quickly as possible and prior to shooting any other animals;
- if the animal was wounded, it would be located and killed as quickly and humanely as possible;
- if an error was made and a lactating female was shot, dependent young would be found and killed as quickly and humanely as possible and
- relevant best practice guidelines would be understood and adhered to.

Hunters are not required to undergo competency assessment for shooting accuracy before obtaining a licence or permit.

Hunting involves more than just 'shooting'. Hunted animals are often chased long distances, sometimes by dogs as well as people; arrows and knives are sometimes used to kill animals rather than firearms; other parts of the body are aimed at rather than the head; wounded animals escape without being followed up and dependent young are often left to fend for themselves. The skill level of hunters is highly variable and some are not motivated or required to follow standard procedures or best practice. The consequences of these practices are that many animals will endure significant suffering and a protracted death.

How does hunting affect other animals?

Hunting not only affects the target animal that is killed or wounded by a bullet, arrow or knife. It can also have a significant negative impact on other animals, particularly dependent young. If hunters do not find and euthanase the dependent young of shot females, they are left to fend for themselves. Depending on their age, orphaned young can suffer and die from starvation, dehydration or predation. Maternal deprivation is a significant stressor in many species and even if orphaned individuals survive the initial acute stress of lack of nutrition, changes in physiology and behaviour can have a detrimental effect on their growth and development.

With some species it can be very difficult to locate and euthanase dependent young. Rabbit warrens containing kittens and active dens with fox cubs can be some distance from where the female is shot. Even if they are located, it is labour intensive to dig them out. Deer and goats will often hide newly born young until they are mobile and thus are likely to go unnoticed by hunters when the mother is shot. With some species (e.g. deer, pigs) hunters may be aware that there are dependent young but purposely do not euthanase them because they believe they will become future hunting targets. It takes time, effort and patience to locate these animals and euthanase them with humane methods and it is doubtful that all hunters are motivated to do this.

One way to minimise the impact on dependent young is to avoid hunting during known breeding seasons. For example, breeding occurs in a regular season in fallow and red deer, with most fawns/calves being born in November or December. However, with other animals such as feral goats that have no defined breeding season, there is always a risk that some dependent young will be orphaned by hunting.

Adult animals that survive hunting can be affected by experiencing mental stress and disruption to the social structure if they are a species that live in a group. We know hunted populations of deer have significantly greater flight responses than non-hunted populations which suggests that hunting is stressful to the surviving animals.

Hunting with firearms and dogs close to native animals and livestock can also disturb them and cause fear. They can be wounded by stray bullets or injured if they try to flee the area. Hunting dogs that are not adequately trained or controlled, or that escape, could also attack native and farm animals.

Isn't hunting the same as pest animal management?

The answer is no, although pest animal management sometimes involves the ground shooting of animals as a control method, it is different to hunting in a number of ways. For example:

Motives
Pest animal management programs are carried out with the aim of reducing the negative impacts on agricultural production and natural resource systems, using the most humane, target specific, cost effective and efficacious techniques available. In contrast, most hunting is primarily done as a desire to kill pest or game animals as a recreational activity.

Effectiveness
Pest animal management programs must be carefully planned and coordinated to have a desired and lasting effect. Most recreational hunting is done on an ad hoc basis. There is no defined objective, no planning, monitoring or assessment of effectiveness. The methods used by hunters are labour intensive, expensive and not effective in reducing populations of pest animals over large areas for the long term.

The following comparison reveals the ineffectiveness of recreational hunting of feral pigs compared with government coordinated pest animal management control programs:

- The NSW Game Council has reported that 73,000 game and feral animals, including 11,079 feral pigs, were removed through hunting activities from declared State forests across NSW in the 6 years from 2006-2012.
- In contrast, in 2012 in a single region in NSW, local livestock and catchment management authorities worked together to undertake three large-scale, integrated programs, conducted over several weeks and covering an area of approximately 1.6 million hectares, to kill almost 10,000 feral pigs.

This means that recreational hunting removed roughly the same amount of feral pigs over a 6-year period that were removed by a coordinated and planned feral pig management program conducted over a matter of weeks.

Animals targeted
Pest animal management programs target all animals including females and young, whereas, hunters will often target large trophy males and leave behind females and/or young to maintain a sustainable harvest for the future.

Methods used
Pest animal management programs take an integrated approach and use a variety of methods depending on the species targeted e.g. poison baiting, trapping, habitat manipulation, mustering, exclusion, biological control, etc. Ground shooting is sometimes used as a control method, but for most species and in most situations shooting by itself is not an effective way to significantly reduce animal numbers and is of limited use to achieve long-term control.

Hunters use ground shooting, bowhunting and 'sticking' (or stabbing) with a knife to kill animals. All of these methods are labour intensive, expensive and are inefficient for the long-term control of pest animals. They are used primarily because they are a test of the skills and technical competence of the hunter, not because they are useful for managing the impacts of pest animals.

Some of the methods used by professional pest animal controllers are more humane than those used by hunters. For example, in some situations aerial shooting has been assessed as being more humane than ground shooting since the distance from the shooter to the animal is much shorter and any wounded animals can be followed up quickly. Also, shooting of deer at night with the aid of a spotlight causes less stress to the deer compared with recreational hunting where deer are only permitted to be shot during daylight hours.

Competence of operators
Operators conducting pest animal management programs are highly skilled and experienced with firearms and hold the appropriate licences and accreditation. If they are shooting animals they must undergo shooting proficiency tests and must always act in a professional manner. For example, operators who participate in aerial shooting operations are competent marksmen who hold an appropriate licence and are specifically trained for the task (e.g. NSW Feral Animal Aerial Shooter Training (FAAST) course, NT Parks and Wildlife Advanced Firearms course, QLD Biosecurity Aerial Platform Marksmanship Course).

In contrast, hunters have highly variable skill levels and there is no shooting competency test required to acquire a hunting licence. In a survey of hunters carried out by the University of Queensland in 2012, 58% of 6,892 hunters said they had not done any accredited hunter training. Disturbingly, in some states, young children can hunt animals under a junior hunting licence. In Queensland the minimum age is only 11 years old, in Victoria, South Australia and New South

Wales it is 12 years of age. Junior licences are free in some jurisdictions and may have fewer conditions than adult licences.

Can recreational hunting hinder the management of pest animals?

The answer is yes. Recreational hunters have interfered with the effective control of pest animals in some areas, especially in state forests. Evidence from genetic studies has shown that pig hunters have illegally transported feral pigs into new areas. The national threat abatement plan for feral pigs states that "the continued release of feral pigs for hunting, either in new areas or in areas they do not currently occupy is a major threat to the effective management of feral pigs and their damage". It has also been shown that shooting feral pigs, especially where dogs are used, can be counterproductive to other control methods because it can disperse pigs or make them more wary of humans.

Deer (especially fallow, red and chital) have been deliberately and illegally released into 'deer free' areas so that hunters don't have to travel long distances for their sport. Hunters will also selectively take some individuals (large males) and leave others (females, young) because of the motivation to maintain animal populations for future hunting.

The only circumstances were licensed hunters could be used for pest animal control would be part of a government supervised management program with mandatory competency assessment for shooting accuracy.

GENERAL WELFARE ISSUES ASSOCIATED WITH SHOOTING

Isn't shooting a humane way to kill animals?

Animal welfare experts agree that shooting can be a humane method of killing animals when the following requirements are met:

- it is carried out by experienced, skilled and responsible shooters
- the animal can be clearly seen and is within range to achieve an instantly fatal shot and to ensure it is not a lactating female
- the correct firearm, ammunition and shot placement is used
- target animals are not chased (but stalked as not to alarm the animal) prior to shooting
- wounded animals are located and killed as quickly and humanely as possible
- death of the target animal is confirmed before shooting another animal
- if a lactating female is accidentally shot, efforts are made to find dependent young and kill them quickly and humanely
- all other conditions, as stated in relevant best practice guidelines, are understood and adhered to.

However 'hunting' does not always satisfy these requirements. Therefore although shooting using best practice is considered humane, the variable nature of 'hunting' means that some degree of animal suffering is likely. The main concern with hunting is that there is no mandatory requirement for hunters to undergo a shooting competency assessment which means there are likely to be many hunters who lack the necessary skills to kill animals humanely.

What's the difference between head shooting and chest shooting?

If the correct firearm and ammunition are used, a well-placed head shot (with the brain as the point of aim) will result in immediate unconsciousness. When there is adequate damage to the brain and the animal does not regain consciousness there will be no suffering.

In contrast, with chest shots (which cause damage to the heart and lungs) the time to unconsciousness can range from seconds up to a few minutes. When an animal is shot in the chest, the time to loss of consciousness and the time to death will depend on which tissues are damaged and, in particular, on the rate of blood loss and hence how long it takes for the brain to have insufficient oxygen. Loss of consciousness and death is likely to be quicker when animals have been shot in the heart. A phenomenon called 'hydrostatic shock', where a pressure wave from the bullet causes damage to internal organs, can contribute to 'bringing down an animal' quicker and causing a more rapid loss of consciousness in some instances when animals are shot in the chest. However, compared with head-shot animals, those that are chest shot have a higher risk of remaining conscious and suffering for a short period prior to death - though the extent of suffering will vary depending on which tissues are damaged and the rate of blood loss. During severe bleeding they are likely to feel a sense of breathlessness and potentially some anxiety and confusion before they lose consciousness.

Unfortunately, it is not uncommon for shooters to aim for the chest as it presents a larger target area compared to the head, thereby increasing the likelihood of shooting the animal, especially for less skilled shooters. To avoid suffering, shooters should be required to demonstrate competency in killing an animal instantly using a head shot. The other reason why chest shots may be preferred in recreational hunting is to preserve the head so that it can be mounted as a trophy. The RSPCA is opposed to recreational or trophy hunting as it causes unnecessary injury, pain, suffering, distress or death to the animals involved.

HUNTING IN NATIONAL PARKS

Which states allow hunting in national parks?

Recreational hunters are, or have been, permitted under strict controls in specified national parks in Victoria, Western Australia, Queensland and South Australia. In all states, most national parks and reserves are closed to hunting at all times.

In Victoria, sambar and hog deer can be hunted in a number of parks during a specified calendar period (i.e. 'open season') but dogs must not be used. In a small number of parks declared species of ducks and quail can also be hunted, and dogs can be used to flush and retrieve birds. In Lake Albacutya Park hunting of pest animals such as rabbits, foxes and cats is permitted.

In Western Australia, Queensland and South Australia, recreational hunters have participated in shooting programs to kill foxes and feral goats, cats and pigs. In these states there is no unrestricted recreational hunting in national parks, and hunters are only used as part of planned pest control programs under the administration of statutory authorities responsible for the management of national parks and reserves.

In 2015, the WA government rejected a plan to trial recreational shooting in national parks due to public safety concerns, lack of evidence to support the claim that recreational hunting is effective in managing pest animals, animal welfare issues and the considerable resources required to administer such a program.

In 2014, the New South Wales government commenced a three year trial permitting volunteer licensed hunters to shoot declared pest animal species including goats, foxes and rabbits in 12 national parks and reserves across the State. Shooters are under the direction of parks and wildlife officers and are required to undergo assessment of shooting accuracy to participate in the program.

Is recreational hunting an effective and humane form of pest animal management in national parks?

Recreational hunting causes inevitable pain and suffering to animals and is not an effective form of pest management. In the limited circumstances where shooting is carried out as part of a pest animal management program, professional marksmen have been shown to be more effective than recreational hunters.

For example, in the Gum Lagoon Conservation Park in South Australia, 65 recreational hunters over 4 days were only able to kill 44 deer, while one professional marksman in a helicopter was able to kill 182 deer in 4 hours. In Tasmania, an investigation into wallaby shooting methods found that in two nights of shooting, a single professional marksman achieved the same level of population reduction as four recreational shooters were able to achieve in a year.

Professional marksmen are also proficient at shooting animals humanely. During a cull of 856 wild impala in the Mkuzi Game Reserve, South Africa by a marksman, 93% of animals were killed with only one shot (to the head) and 6% were wounded and then killed. The average survival time for wounded animals was 30 seconds. No animals escaped wounded. The animals were hunted at night with the aid of a spotlight to reduce animal stress prior to shooting and to ensure a high proportion of animals were killed instantaneously. In this example, the level of instantaneous unconsciousness quickly followed by death is comparable to what is achieved in commercial abattoirs (>94 % stunned instantly).

Undoubtedly some recreational hunters are highly skilled at shooting, but there are many who are not. In New Zealand, 5% of recreational hunters account for more than half of all deer shot for sport, leaving the majority of hunters with limited experience of shooting animals. The picture is similar in Australia. Even more disturbing is that junior hunting licences are given to children as young as 11 years' old. It is very doubtful that children of this age would have the skills, knowledge and motivation to kill animals in a humane and efficient manner. Also, there is no requirement for hunters to demonstrate shooting competency as a condition of licensing. Given that one of the main factors influencing animal welfare is operator skill, a shooter skills test should be mandatory. Of greater concern is the fact that there have been no independent audits of wounding rates of animals shot by recreational hunters. Until such studies are done recreational hunters cannot make claims regarding the humaneness of their hunting.

BOW HUNTING

Why do some hunters use a bow and arrow and is this type of hunting humane?

Some hunters use a bow and arrow to hunt animals because they consider it to be an 'art' or challenge that requires skill and patience. However, from an animal welfare perspective it results in significant pain and suffering. Wounding rates can be high, the time to death can be prolonged and animals remain conscious while they die from massive blood loss.

Bow hunters use either a longbow, recurve bow or compound bow with a broad-head arrow to kill animals. Compound bows are most commonly used as the system of wheels and cables along with sights, makes them easier to fire.

Crossbows are prohibited weapons in most states and are not permitted for hunting. However, they can still be used when hunting deer in Victoria as long as hunters hold the relevant government approval.

The same game species permitted to be hunted with a firearm can also be bow hunted (i.e. deer, feral pigs, feral goats, foxes, feral cats, wild dogs, rabbits and hares as well as game birds). The arrow is aimed at the chest to cause damage to the heart and lungs. Head shots are never used since deflection of the arrow is likely to occur from striking skull bones.

Bow hunting is regulated in NSW (by the Department of Primary Industries) and Victoria (by the Department of Environment and Primary Industries) but there are no specific bow hunting regulations in other states and territories.

Even when carried out by a competent marksman, it does not result in a rapid and humane death. When an animal is fatally shot with a bow, it can take several minutes for them to die; they will suffer severe pain over this period due to the trauma and damage to tissue and organs caused by an arrow entering the body.

In contrast, when an animal is shot with an appropriate firearm and ammunition by a trained and experienced shooter, death is instantaneous. Firearms deliver a percussive shock to the target animal which can delay the onset of pain, whereas arrows cause extensive damage without percussive shock. Based on assessments of animal welfare impacts using an established model (Sharp & Saunders 2011), a head shot from a firearm is considered to achieve the most humane death when compared to other hunting methods. Ethically, there is no justification for using a method of killing that causes increased suffering when another more humane method is available.

The number of animals wounded (but not killed) by bow hunting is quite variable but can be very high. For example, with deer hunting, surveys of bow hunters indicate that between 12% and 48% of deer may escape whilst injured (Gregory 2005). This is significantly higher than the reported 5% of wounded animals that escape when shot with a rifle by professional shooters. Wounded animals that are not retrieved and killed can suffer from the disabling effects of the injury, pain and wound infection.

When using a bow, hunters need to get very close (no more than 20 metres) to the target animal. The arrow's flight path to the chest must be unobscured by leaves or branches or it might be deflected and hit another part of the body. It can also be difficult to follow and kill mobile injured animals if they escape into thick cover, rough terrain or other inaccessible areas. Furthermore, with animals that are injured and have gone down, it can be hard to get another shot into the chest with an arrow, depending on the position the animal is lying.

Proponents of bow hunting argue that the sport assists with pest animal management. However, for any pest animal control technique, it needs to be carried out as part of an integrated management program that focuses on reducing the adverse impacts of the target animals. In contrast, bow hunting is carried out as a sporting activity that focuses on the achievement of the individual hunter. There is no evidence that bow hunting makes any significant contribution to reducing the adverse impacts of pest animals in Australia.

TROPHY AND CANNED HUNTING

What are trophy and canned hunting and are they legal in Australia?

Hunting animals for sport poses significant animal welfare risks in relation to the pursuit of animals, use of dogs, injuries caused, and the potential for a slow, painful death (where animals have not been killed outright). RSPCA Australia is opposed to the hunting of animals for sport due to the unnecessary pain, injury, distress and death caused to animals.

Trophy hunting involves organised hunts where the hunter takes the 'trophy', which is usually the whole or part of the animal they have killed, e.g. pelt, head, feet etc. This form of hunting is purely for sport and pleasure and is permitted in Australia. Buffalo and wild boar hunting tourist safaris are regularly conducted in the Northern Territory. In 2014, the Victorian government fully supported the promotion of trophy deer hunting. Unfortunately, the animal welfare implications of such activities are often overlooked when potential economic benefits take priority. Some proponents of hunting promote it as a valuable conservation activity, where feral or pest animals are killed, thereby helping to protect native animals and the environment but there is no evidence to support this assertion.

Canned hunting has been developed in some parts of Africa and is expanding. It involves the captive breeding of lions and other game species which are then hunted by tourists who have paid large sums of money for the experience. The hunting occurs in enclosed areas where the animal has no means of escape - hence the term 'canned' means that the kill is guaranteed or 'in the can'. It has been reported that some animals are released into very small areas and some have been drugged to reduce their ability to flee, adding to the unfair advantage that the hunter already has.

Fortunately, in March 2015, the Australian Government announced a ban on importing or exporting trophies by hunters who had travelled overseas in an effort to protect African lions and rhinos from this barbaric sport. Canned hunting of this nature is not conducted in Australia.

OPEN SEASONS FOR DUCK AND QUAIL HUNTING

What happens during duck and quail shooting and where does this happen?

For most of the year, native water birds (mainly ducks) and quail are protected under native wildlife laws. However, during a declared 'open season'- a specified calendar period announced by the relevant state/territory government - some species are permitted to be shot for sport by licensed hunters. Shooting in some areas may not be permitted due to declining water supply and therefore numbers of native water birds or if threatened species of birds are found to inhabit the area. Shooting may be permitted at lakes in public areas but is also undertaken on private properties, making monitoring very difficult.

Duck hunters usually lay out decoys in the water in front of a hide or camouflaged screen to avoid being detected by incoming flying ducks. They then use a shot gun, to shoot ducks that fly across or land among the decoys. Gundogs are often used to retrieve fallen birds. When hunting waterfowl, all states now require the use of lead-free shot, such as steel or bismuth.

Hunting for quail usually involves walking around a specific hunting area with trained gundogs, which help to 'flush' the birds from cover. The birds are shot using a shotgun and then retrieved by the gundogs when they fall to the ground.

As with other game animals, the hunting of game birds in Australia is regulated separately by each state and territory government. Hence, there is a variety of regulations and licence requirements as well as a range of different species that can be hunted. Hunters are only permitted to shoot the species that are prescribed and hunters are usually required to pass a Waterfowl Identification Test (WIT). However, despite this, many protected species such as swan, ibis, spoonbill and cormorant, and even endangered species such as the freckled duck have been shot by licensed hunters.

Recreational duck hunting is permitted in South Australia, Tasmania, Victoria and the Northern Territory. Hunting of ducks for sport is not permitted in the ACT, New South Wales, Queensland and Western Australia. However, in some of these states ducks can be shot under licence when they are considered to be causing damage to crops, dams or waterways. Specified species of quail are hunted in NSW, Victoria, South Australia and Tasmania. The Northern Territory also permits recreational hunting of magpie geese.

Which States permit open seasons for recreational duck and quail hunting?

The following table summarises the legal requirements regarding recreational duck and quail hunting in each state and territory. Open seasons are not declared in WA, Qld, NSW and ACT.

Table2: Summary of where duck and quail hunting occur in Australia

State/Territory	Duck hunting	Quail hunting
NSW	No declared open season but can hunt on private properties under damage control permit*	California quail can be hunted on private land and no bag limits apply
Victoria	Specified waterfowl can be taken during a declared open season subject to seasonal variations	Stubble quail, European quail and Californian quail can be taken during a declared open season subject to seasonal variations
South Australia	Specified waterfowl can be taken during a declared open season	Stubble quail can be taken during a declared open season
Queensland	No declared open season but can hunt on private properties under damage control permit*	Not hunted
Tasmania	Wild duck can be taken during a specified open season	Brown quail can be taken during a specified open season
Northern Territory	Specified waterfowl can be taken during a declared open season	Not hunted
Western Australia	No declared open season but can hunt on private properties under damage control permit*	Not hunted
ACT	Not hunted	Not hunted

**Damage control permits are issued by the government to farmers who apply on the grounds that ducks are causing crop damage. There is no bag limit and hunters can apply for a licence to shoot on private properties that have obtained a damage control permit. Little is known about these permits in terms of the evidence that is required to obtain a permit which demonstrates that ducks are causing crop damage and to what extent permitting recreational hunters to shoot ducks is effective in reducing the damage.*

How many ducks and quail are wounded due to recreational hunting?

In recreational duck and quail hunting people use a shotgun to shoot the birds; this causes inevitable pain and suffering as not every bird is killed outright. While no recent studies have been conducted, one historical report showed that on average nearly a quarter of ducks were wounded and not killed outright, but the figure could be as high as one third. No wounding rate figures are available for quail.

Why are so many birds wounded and not killed?

Negative animal welfare impacts associated with recreational hunting, particularly injuries, are recognised and reported (Hampton & Hyndman 2018). During recreational hunting, native ducks and quail, as well as other waterfowl classified as game, are shot using shotguns. This inevitably results in pain and suffering because a shotgun releases a spray of pellets rather than a single bullet. To kill a game bird, the bird's vital areas (i.e. brain or heart/lung) must be hit by pellets, but the chance of achieving a fatal shot decreases the further the bird is from the shooter. If the bird is flying alone and shot from a relatively close range, a large number of pellets are likely to hit vital organs increasing the chances of causing death rapidly. Death occurs from damage to vital organs, bleeding and shock. However, if a bird is shot at by a hunter from too far away, the pellets will spread further out and, coupled with the reduced pellet velocity, this will result in the wounding of both the target bird and the birds surrounding it, inevitably leading to pain and suffering.

If duck hunters shoot at a group of flying birds rather than aiming for an individual bird, there will always be a high risk of wounding, irrespective of how competent the shooter is. A bird hit by the central cluster of pellets will usually be killed quickly and fall to the ground, but those at the perimeter of the pellet spread might only be hit by a few pellets, which may not hit a vital organ. A study which used a mathematical model to examine the pellet cluster pattern reported that for every two ducks killed, at least one would be wounded and that even competent shooters cannot avoid wounding birds. This is because shotguns spray a multitude of pellets at a group of birds, rather than targeting an individual bird (Russell 1994). Some of the wounded birds will fall to the ground and be retrieved by the hunter or their gundog, but some will not be found. Wounded birds not retrieved and killed will suffer; some will eventually die from their injuries and birds with less serious injuries may survive with embedded pellets. Wounded birds can suffer from the pain and disabling effects of the injury, from sickness due to wound infection, or from thirst or starvation. Injuries to the bill often lead to an inability to drink or eat. Wing fractures are also common and, as with other injuries, the wounded bird is at a heightened risk of being taken by a predator.

Measures such as decoys, duck callers and using dogs to retrieve downed birds may help to reduce the number of ducks wounded but will never eliminate birds being wounded by using a shotgun.

How many ducks are wounded?

From the 1950s to the 1980s, some surveys of water bird wounding losses in Australia were done, but no recent studies have been conducted. A study which examined the impact of hunting activity on four species of native ducks in Victoria from 1972 to 1977, reported 14% to 33% of birds were wounded but not retrieved (Norman & Powell 1981). Duck hunting also results in a significant number of surviving ducks with shotgun pellets embedded in their body. An x-ray study of trapped live ducks (of mixed species) in Victoria from 1957 to 1973 reported that between 6% and 19% of ducks had embedded shot (Norman 1976).

It is indisputable that duck hunting using a shotgun results in a substantial number of ducks being wounded, with some individuals surviving, whilst others will suffer before eventually dying. Until evidence to the contrary is provided, it appears that based on Australian studies, approximately 26% of birds shot will be wounded or maimed/crippled (Norman & Powell 1981). Of these,

approximately 12% will be wounded and survive, and approximately 14% will be maimed/crippled but this could be as high as 33%. The likely outcome for wounded, maimed or crippled birds is a slow and painful death.

HUNTING WITH DOGS

How are dogs used for hunting?

The regulations and licences regarding the use of dogs in hunting vary between states and territories. In summary, dogs are used during hunting in the following ways;

- to locate and flush out deer;
- to locate, bail and hold (or 'lug') feral pigs (holding is not permitted in some states);
- to locate, flush out, point or retrieve game birds;
- to locate and flush out rabbits, hares and foxes.

In some situations, well-trained dogs can assist in detecting or flushing out animals prior to shooting. This can lead to stress to the hunted animal, especially if it is chased. It is also cruel and therefore unacceptable to set a dog onto an animal with the intention that the dog will attack it. Dogs must always be under adequate control and be called off before they come into physical contact with the hunted animal. Trained dogs can help track wounded animals to ensure they are killed quickly and humanely, however they must be called off as soon as the animal is located.

In Victoria, it is an offence for dogs used in hunting to maim or attack wildlife, including game species.

In addition to minimising the impact on hunted animals, the welfare of dogs used in hunting must also be considered. Hunters should only use dogs that are healthy and in good condition. During hunting, dogs can suffer from heat stress, dehydration, tick paralysis as well as cuts and lacerations. Dogs used in pig hunting can suffer from serious, life-threatening injuries. If dogs are injured, they should receive prompt first aid and veterinary care as soon as possible, if required. It is also essential that hunting dogs can be quickly located if lost. Lost dogs can suffer from dehydration, starvation and exposure. They can also become feral, join other wild dogs and have a serious negative impact on livestock and native fauna if they are not found.

What happens when dogs are used to hunt feral pigs?

The use of dogs in pig hunting poses significant welfare risks to both the pig being hunted and the dogs involved.

Hunting pigs with dogs involves the dog flushing out the pig and chasing it until it is exhausted or cornered. When the pig has been 'bailed up' (the pig remains stationary facing the dog), the hunter moves in to either shoot the pig at close range with a firearm or kill it by stabbing in the heart with a knife (called 'sticking').

Pig dogs are usually large mixed-breed dogs. In NSW, lone hunters are permitted to use a maximum of three dogs, while groups of hunters can use up to five dogs. The methods used to train pig dogs can be inhumane, including setting dogs onto confined pigs that have been captured specifically for this purpose.

The regulations concerning hunting pigs with dogs vary between states and territories. For example, in Victoria, dogs may be used to 'point or flush pigs' but not to 'attack or hold pigs'.

However, in NSW, dogs are permitted to be used for 'locating, holding or bailing pigs'. The holding (or lugging) of pigs is likely to result in higher levels of injury and distress to the pig and also cause more injuries to the dogs.

Regardless of whether dogs hold pigs or not, hunting of pigs with dogs is inherently cruel and unnecessary. Chased pigs will experience fear, panic and distress, and for those that are killed by sticking, death will be painful and prolonged (compared with those that are shot).

If the hunter plans to stick the pig rather than shoot it, dogs are used to hold (or 'lug') the pig by the ears while it is being stabbed. Sticking a pig to kill it is inhumane because it does not cause instantaneous death: it takes some time for the pig to lose consciousness from lack of oxygen to the brain following destruction of the heart. This method is also unnecessary - pig hunters should instead ensure they use an appropriate firearm to kill pigs humanely with an accurate head shot.

Although pig hunters vehemently defend their sport and would like the public to believe that their dogs do not maul or attack pigs and their dogs do not get injured (they claim that the protective chest plates and collars prevent this), there is plenty of video, photographic and direct evidence that reveals the true nature of pig hunting.

Pig hunting dogs often suffer from severe injuries and do not always receive prompt and adequate veterinary attention. Sometimes the wounds sustained by dogs during pig hunting are fatal. Veterinarians working in areas where pig hunters are active attest to the number of pig hunting dogs who are presented for treatment: this number is likely to represent only a proportion of dogs actually injured. A recent Australian study has identified other risks to dogs associated with pig hunting including heat exhaustion, poisoning, vehicular trauma, snake bite, and accidental shooting (Orr et al 2019).

Some hunters admit to castrating male pigs or removing their bottom tusks (often done by bashing them with a rock) to make the top tusks grow bigger, or removing the ears and tails of pigs before releasing them, so they are 'more of a challenge' for their dogs to catch the next time. They also purposely do not take small pigs or sows thus ensuring 'sport' for future seasons. These actions are cruel and in direct opposition to effective pig control.

There is no evidence that recreational hunting of pigs with dogs is an effective method of managing feral pig populations (Bengsen & Sparks 2016). In general, pig hunters only kill a small percentage of the population, disperse pigs through regular disturbance and hunt on relatively small, easily accessible areas. In addition, many aspects of pig hunting involve significant cruelty and would breach animal welfare legislation.

Is it legal to use dogs to hunt deer? Hasn't this practice been banned?

Deer are 'flighty' animals and are easily frightened by dogs, so being chased by them, even for short periods, has the potential to result in distress to the deer and injuries if they run into fences and other obstacles. When deer are pursued for extended periods by scent-trailing hounds the negative welfare impacts are further increased.

In some states in Australia it is still legal to use dogs to locate, point to, or flush out deer when hunting and also in Victoria, to use scent-trailing hounds to chase deer. Dogs are not permitted to be used for hunting deer in Tasmania.

The regulations relating to the use of dogs to hunt deer differ between states and there is sometimes confusion around the difference between 'hunting with hounds' and 'hunting with dogs'. 'Hunting with hounds' (that is scent-trailing hounds) is used to hunt sambar deer in Victoria, but this practice is not permitted in NSW. Sambar deer are the largest of Australia's wild deer and are considered a premier game animal by hunters.

The Victorian game regulations prescribe where and when hunting sambar with hounds can occur as well as height and breed standards for the hounds used (beagles, bloodhounds and harriers), the number of hounds that can be used during a hunt (five hounds with up to three additional pups under the age of 12 months) and numbers of hunters that can hunt at any one time (10 persons with up to two junior or non-Australian resident hunters). In Victoria scent-trailing hounds must not be used to hunt hog deer, red deer, rusa deer, chital deer or fallow deer. However, prescribed breeds of 'gundogs' (e.g. Labrador retriever, Irish setter, cocker spaniel, pointer, Weimaraner) and 'deer hunting dogs' (e.g. Border terrier, fox terriers, German hunting terrier, Jack Russell terrier, Finnish spitz, Norwegian elkhound, dachshund) can be used on all deer species (except for hog deer - the smallest species of wild deer in Australia). The regulations set the maximum number of gundogs and deer hunting dogs to two at any one time.

In NSW, a dog may only be used for locating, pointing, or flushing deer, but hunting with scent-trailing hounds is not permitted. A person hunting alone must not use more than one dog and a group that is hunting together must not use more than two dogs for hunting wild deer.

In Britain, studies to examine how hunting affects the biology of red deer showed that the effects of extended pursuit are severe. Muscle tissue is disrupted, glycogen (energy) reserves are exhausted, cortisol levels (an indicator of stress) are at a maximum and red blood cells start to break down. Researchers concluded that red deer are poorly adapted to predation by sustained pursuit and the suffering caused by this activity is likely to be very great. Based on the results of these studies, the National Trust banned the hunting of deer with hounds on its land in 1997. Following on from this, in 2004 new hunting laws banned the hunting with dogs of all wild mammals in England and Wales, including fox, deer, hare and mink - except where it is carried out in accordance with the conditions of one of the exemptions set out in the Hunting Act (2004).

RECREATIONAL DEER HUNTING

How do recreational hunters kill deer and is it humane?

The species of deer hunted in Australia are sambar, hog, red, fallow, chital, rusa and wapiti. The methods used during recreational hunting of deer are:

- Stalking of deer with a rifle or firearm – involves a hunter attempting to get progressively closer to a deer until such point as he/she can get a clean shot with a rifle or firearm which he uses to kill the deer (usually with a shot to the chest to damage the heart and lungs). Hunters also use stationary tree platforms where they sit and wait for a deer to approach. Sometimes dogs are used for locating, pointing, or flushing deer during stalking.

- Stalking of deer with a bow/crossbow – involves a hunter attempting to get progressively closer to a deer until such point as he/she can get a clean shot with a bow/crossbow which is used to kill the deer (with a shot to the chest to damage the heart and lungs). Bow hunters must get much closer to their target than hunters who use a firearm.

- Hunting with the use of scent-trailing hounds – this method is only used in Victoria and only for sambar deer. It involves the deer being chased by a pack of dogs up to the point of near exhaustion when it comes to a standstill and is then shot (usually with a shot to the chest to damage the heart and lungs).

Stalking followed by shooting with a firearm causes the least suffering of these three methods, since shot deer will die quicker than when killed with a bow and arrow and the deer are not pursued over considerable distances and for a considerable time, as often occurs with hound hunting. However, stalking followed by shooting with a firearm is still not considered humane, unless the deer is killed with a head shot using a firearm to cause instant death.

Stalking followed by shooting is also considered to be ineffective for managing populations of wild deer (targeted, professional deer control programs are more efficient) and seldom satisfies important requirements for the humane shooting of animals. These are:

- it is carried out by experienced, skilled and responsible shooters
- the animal can be clearly seen and is within range
- the correct firearm, ammunition and shot placement is used
- target animals are not alarmed or chased prior to shooting
- wounded animals are located and killed as quickly and humanely as possible
- death of the target animal is confirmed before shooting another animal
- when lactating females are accidentally shot, efforts are made to find dependent young and kill them quickly and humanely
- all other conditions, as stated in relevant best practice guidelines, are understood and adhered to.

What is the most effective and humane way to control deer?

Ground shooting by professional pest animal controllers is considered to be the most effective and humane technique currently available for reducing wild deer populations. A national standard operating procedure for the ground shooting of wild deer by authorised personnel within managed parks and reserves describes how this is done.

To minimise animal stress, culling operations are done in accessible areas at night from a vehicle with the aid of a spotlight. A red filter is placed over the spotlight to reduce the amount of light seen by the deer and rifles fitted with sound suppressors are also sometimes used to reduce animal disturbance and facilitate accurate shooting. Dogs are not used at any stage during a professional culling program.

The aim is to shoot all animals in a group to prevent social disruption and distress in surviving animals. Shooting is conducted with the appropriate firearms and ammunition and in a manner which aims to cause immediate insensibility and painless death.

Shots to the head are preferred over chest shots as they are more likely to cause instantaneous loss of consciousness. Fawns/calves and juveniles are shot before shooting mature deer in case they escape and cannot be located. The target animals in a group are checked to ensure they are dead before moving on to the next group of animals.

However, this standard operating procedure does not apply to the recreational hunting of deer which is regulated by the relevant state agencies responsible for hunting. The NSW and Victorian regulations state that ‘hunting of deer at night is prohibited’ and ‘a spotlight or artificial source

of light cannot be used to hunt deer'. The reason why is given on the Victorian Game Management Authority website:

> *"The spotlighting of deer is a major enforcement issue for government agencies, such as the Game Management Authority and Victoria Police. It is illegal, dangerous, unethical and reduces recreational hunting opportunities for law-abiding hunters."*

Also, recreational deer hunters usually target the chest, rather than the head, to preserve the antlers for trophies. A chest shot causes more suffering than a well-placed head shot because it does not render the animal instantaneously insensible. Hunters often kill the larger males and leave smaller animals and dependent young, which can result in a disrupted social group as well as distressed and orphaned young. Thus, recreational deer hunters are keen to ensure ample deer for future harvest with much less emphasis placed on the welfare of hunted deer or to contributing to effective population control. In contrast, standard operating procedures for professional deer shooters aim to ensure the humane and efficient killing of deer.

ALTERNATIVES TO RECREATIONAL HUNTING

Are there any alternatives to recreational hunting that don't involve killing animals?

There are many well-established shooting disciplines which simulate hunting and can be enjoyed recreationally without the use of animals.

Simulated field shooting is a popular and fast growing sport, originally developed to help hunters practice between gaming seasons. A shotgun is used to hit clay discs which represent traditional quarry such as rabbit, duck, quail and pheasant. Shooters walk around a course and the natural terrain is used to launch clay targets from bushes, trees and fields. The hunting experience is emulated with discs of different sizes and shapes propelled at various speeds, angles and distances. There also many specialised targets available which include 'battues' that turn at the end of their trajectory, and 'rabbits' which move along the ground.

'Five-stand' is a competitive discipline in which a shooting stand, resembling a cage, restricts the movement of the rifle to ensure safety. Shooters fire at clay targets launched at different trajectories, speeds and angles which mimic the unpredictable movement of live quarry.

'Skeet' is a competitive sport in which a shotgun is used to fire at clay discs propelled at high speed from two fixed towers. Shooters move through a semi-circular range comprising eight shooting stations.

'Trap' simulates field shooting of waterfowl and game. Shooters fire at clay discs flung into the air from an underground bunker. Double trap involves the release of two discs simultaneously.

Australia has excellent shooting facilities and has achieved international success in many disciplines. For example, Michael Diamond won a gold medal for Australia in the trap event at the 1996 Atlanta Olympics, and Russell Mark won the double trap competition.

Further information about alternatives to recreational hunting can be found here:

https://ssaa.org.au/disciplines/shotgun

https://shootingaustralia.org

REFERENCES

Bengsen AJ & Sparkes J (2016) Can recreational hunting contribute to pest mammal control on public land in Australia? Mammal Review 46:297-310.

Gregory NG (2005) Bowhunting deer. Animal Welfare 14:111-116.

Hampton JO & Hyndman TH (2018) Underaddressed animal-welfare issues in conservation. Conservation Biology 33(4):803-811.

Norman FI (1976) The incidence of lead shotgun pellets in waterfowl (Anatidae and Rallidae) examined in south-eastern Australia between 1957 and 1973. Australian Wildlife Research 3:61-71.

Norman FI & Powell DGM (1981) Rates of recovery of bands, harvest patterns and estimates for black duck, chestnut teal, grey teal and mountain duck shot during Victorian open seasons, 1953-77. Australian Wildlife Research 8:659-664.

Orr B, Malik R, Norris J et al (2019) The welfare of pig-hunting dogs in Australia. Animals 9:853.

Russell G (1994) Shotgun wounding characteristics. Maple Tech: Maple in Mathematics and the Sciences (Special Issue). Boston: Birkhauser, pp 17-20.

Sharp T & Saunders G (2011) A model for assessing the relative humaneness of pest animal control methods (Second edition). Australian Government Department of Agriculture, Fisheries and Forestry, Canberra, ACT.