

Guide to Deer Control in Peri-urban Areas



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Accompanies the Peri-urban Deer Control Plan 2021–26

Effective control methods are limited for deer.

It is essential to use best-practice methods. These include shooting, fencing and guards, traps and using dogs to flush deer into areas where other techniques may be used.

While deer control is possible in peri-urban environments, not all tools are effective, practical, or available.

High population density in peri-urban areas and small property sizes limit the extent to which shooting can be applied, either from the air or on the ground using professional or recreational hunters.

Other considerations include the need to notify and engage a larger number of stakeholders, the need to effectively assess each individual situation and the circumstances surrounding each problem.

A Standard Operating Procedure (SOP) is being developed for shooting. Tranquiliser guns, followed by lethal injection, are sometimes used to control deer by authorised people such as veterinary practitioners, particularly in built-up areas.

Non-lethal chemical deterrents have been used to deter deer, but most are considered useful only for short periods (Bennett, 2020). Similarly, some hunters like to use free-feeding and attractants to lure deer to an area that is suitable for shooting.

Deer are wary and may become more difficult to manage when subjected to ineffective control. The choice of control methods is influenced by concerns for animal welfare, non-target impacts, public safety, occupational health and safety and restrictions (legislative and practical) on applying some techniques such as use of firearms on small properties.

Deer control requires a level of expertise and should be undertaken by experienced persons.

Given the size of deer and their unpredictability when fleeing, personal injury is possible. Caution should be exercised when deer are cornered within a site or structure. Call Triple Zero (000) where there is an immediate risk to public safety and/or animal welfare.

Table 1 lists some key considerations when planning deer control in peri-urban areas.

Table 1: Considerations when planning deer control in peri-urban areas

Peri-urban consideration	Response
Noise impacts from use of firearms	<ul style="list-style-type: none"> • Suppressors can be used to reduce sound volume. • Have a communication plan in place to advise the community on upcoming control work and inform people about what to expect during a shooting program. • Notify relevant stakeholders and neighbours of works in advance.
Populous places	<ul style="list-style-type: none"> • Higher densities of people and housing reduce the number of suitable locations for shooting deer. • Check with the local District Firearms Officer to determine requirements for Public Place Permits. • Use professional contractors with permits to undertake works in highly populated peri-urban areas. • Consider control in larger areas nearby rather than in populous areas – a reduction in deer in surrounding areas will have flow-on benefits, can be undertaken more safely and is generally more cost-effective. • Engaging a professional deer controller can be a barrier to participation in control works because of the costs involved.
Small property sizes	<ul style="list-style-type: none"> • Consider control in larger properties nearby, which will benefit landholders on smaller landholdings and can be done more safely and effectively. • Collaboration is key, with landscape-scale work essential to contributing to the reduction of deer in the peri-urban environment. Where properties are small, it is recommended that landholders team up with neighbours to create larger control areas. This is likely to increase effectiveness. • Local councils may help facilitate collaboration between property owners. • Deer are not confined to public land, and there will be improved outcomes from work across land tenures.
Disposal of deer carcasses is more difficult.	<ul style="list-style-type: none"> • Some properties may be unsuitable for burial of deer or too small to leave carcasses <i>in situ</i> without upsetting neighbours because of the smell or sight. • An increasing number of professional deer controllers are also licensed harvesters, allowing removal and commercial processing of wild-shot deer for human consumption or pet food through PrimeSafe licensed game meat processing facilities. • There can be productivity benefits from ‘dropping and leaving’ deer carcasses, and this could be considered in areas where decomposing animals will not cause complaints or water quality concerns.
Unable to do ground-based shooting at sites	<ul style="list-style-type: none"> • This may be because of accessibility issues or community moral objections to the euthanasia of wildlife. But other management options may be considered. • Removal or thinning of weedy deer harbour – particularly blackberries – may reduce deer numbers by limiting options for deer to bed and breed. • Limiting access to natural and artificial water sources may encourage deer to move on. • Note that these methods do not reduce deer numbers but move the problem to another area. This can still be beneficial if it moves deer away from assets that need protection. • Some use of noise deterrents can make it uncomfortable for deer to remain in an area. This is best used directly following an adjacent deer control so that the deer associate the loud noises with shooting.

Peri-urban consideration	Response
Fragmented properties and discontinuous areas of control can lead to re-invasion from non-control sites	<ul style="list-style-type: none"> • Use the prioritisation matrix to assess proposed control sites to ensure that work is performed in priority areas. • Council environment officers, public land managers, Landcare or other environment group can advise on current local deer control activities that a landholder can join. • Deer control work at appropriate landscape scales will provide more effective localised reductions in deer abundance, with ongoing control preventing re-colonisation of deer back into the area. • Report deer sightings and damage through the Victorian Biodiversity Atlas, Atlas of Living Australia or FeralScan to contribute to deer knowledge datasets. • Ensure works are undertaken at a landscape scale where practical, across land tenure boundaries.
The use of recreational hunters in public land areas is limited unless authorised by the land manager (Game Management Authority map of deer hunting areas)	<ul style="list-style-type: none"> • Recreational hunting cannot play a significant a role in managing deer populations in peri-urban areas. • Hunters can provide volunteer deer control for landholders under the Governor-in-Council (GIC) Order that unprotects deer as wildlife on private land. • Under the GIC Order, spotlights and other tools can be used and control can occur at night. • The requirement for Public Place Permits needs to be considered by recreational/volunteer shooters. • An increase in shooting in the areas set aside for recreational hunting will benefit peri-urban areas where control is more complex and restricted.
Highly fragmented natural environments with mosaics of different vegetation types	<ul style="list-style-type: none"> • Fragmented landscapes can make it hard to select appropriate control sites. • Small patches of bushland appear to carry high densities of deer, possibly because water and feed is abundant nearby, but research and monitoring is needed to determine the impact and carrying capacity of the local vegetation communities. • Consider fencing off small areas of critical biodiversity assets to provide seasonal or permanent protection from deer and other herbivores. • Private landholders should consult their council’s Planning team to check if their local planning scheme requires permits for fences or restricts the types of fences that can be used.
Lack of community awareness - Limited knowledge of deer, and signs of their presence, impacts and options for control and management	<ul style="list-style-type: none"> • Education and communication are key to the successful community engagement. • Information and education will help landholders understand the complexity of deer in the landscape – how they came to be here, and the habitat requirements for deer. • Letter drops, media and demonstration sites, and field days will increase knowledge and ownership of managing deer impacts.
Knowledge gaps on deer distribution and impacts in peri-urban areas.	<ul style="list-style-type: none"> • An integrated cross-tenure monitoring program is required across the peri-urban area to improve knowledge of deer distribution, abundance, and impacts.

Useful links

The [PestSmart website](#) provides best practice information on how to plan, manage and deliver ground shooting of deer and improve pest animal control programs in Australia.

Victoria Police issue Public Place Permits to authorise individuals to use or carry a firearm in public places in specific circumstances. Visit police.vic.gov.au/public-place-permits.

Shooting

Shooting can be a humane method of culling deer when carried out by experienced and skilled professional and responsible shooters.

The Game Management Authority website has information on [where recreational deer hunting is available to hunters](#). Recreational hunting sites are limited in the peri-urban plan area. The development of a ground shooting Standard Operating Procedure (SOP), an action in the VDCS, will lead to consistency in this method of deer control.

Installing deer hides or elevated stands can help hunters and professional shooters to stay out of sight of deer and offer better shooting vantages.

Building these types of structures adds to the mechanisms to aid control efforts and can be used in sites that offer little cover or reduced safety because of projectile trajectory. Hides provide greater safety by confining hunters to one location where deer have been observed regularly. These are suitable for volunteer shooters, or where more oversight is needed.

Aerial shooting is used in a range of sites across Victoria and could be an effective tool in planned eradication activities in closed water catchments. It is less likely to be applied in the peri-urban plan area because of proximity to housing.

Aerial shooting is useful when applied to remote and difficult to access areas, and can target deer quickly and efficiently. Specialist deer control professionals – supported by ground support staff – have removed many deer after recent bushfires when precious recovering vegetation was further threatened by deer.

All shooting efforts should record information such as numbers, sex, age, location, areas searched and duration of event. Recording deer that were seen but not shot can assist future activity.

Fencing

Fences come in many configurations. The [deer farming handbook](#) provides some examples. Fencing is best suited to protecting spatially discrete high-value assets.

Assets such as wetlands can be fenced to stop deer accessing the site. Fences can be used in agricultural settings to protect high-value assets.

Exclusion fencing is seen as a humane alternative to lethal control methods. It acts as a barrier to deer but can have negative effects on other species by altering deer distribution and foraging patterns. It can also be a hazard to wildlife during bushfire. Designing fences to allow wildlife to pass while restricting deer is emerging as a trade-off in some instances.

Protecting revegetation sites can benefit from deer exclusion in conjunction with other techniques.

Deer are agile. Fencing should be considered where maintenance and upkeep stops deer from entering these sites. In some instances, fences can guide animals to sites where they are easier to control as part of an overall plan.

Fence types such as ring lock fences have proven effective for some areas, but the cost is high. Electric fences may be used in certain areas and can be turned on and off depending on their purpose.

Fencing is often a permanent protection, but temporary fencing or caging of small sites can protect flora requiring only seasonal protection. Temporary fencing can be re-used at other sites around a property.

Tree guards can protect of new tree planting areas or protect trees from damage from deer antlers as shown in Figure 1.



Figure 1: Tree protection (Photo: Penny Richards)

Once trees are established, tree guards can also be re-used elsewhere. Tree guards up to 2m high can offer good protection compared to traditional shorter types but cost more.

Deer control ahead of revegetation programs is desirable rather than while damage occurs.

Trapping

Trapping is used in other states such as New South Wales. It could be a useful addition to the tools used in Victoria. It is likely traps will require an Authority to Control Wildlife Permit. Few people have experience in deer trapping in Victoria. Training of DELWP and Parks Victoria staff and other parties is proposed.

Traps usually trap single deer rather than groups; however some species can be trapped in small groups. The application of a range of conditions relates to this type of action and shooting of trapped animals is still required.

Using dogs

Gundogs and hunting dogs can be used to help with deer control programs by detecting deer after ground-based shooting programs. The Game Management Authority has information on hunting deer with hounds, gundogs and hunting dogs at <https://www.gma.vic.gov.au/hunting/deer/deer-hunting-laws>.

The [More to Explore mobile app](#) for public land may also help with finding sites suitable for this technique.

Guardian dogs can deter deer and successfully repelled foxes from some areas. This may be possible for deer.

New tools and techniques

New deer control tools and techniques are becoming more available. Some of these are listed in Table 2. While application of each may need to be selected for suitability, they should be considered as part of the overall toolkit available to land managers.

Table 2: New tools and techniques for deer control

Tools/techniques	Description
Aggregator – a feeding station	Devices that allow deer to feed and prevent other species from entering feed hoppers. Can be used with panel traps.
Aerial shooting	While not new, aerial shooting is being expanded into additional areas in Victoria. It is proving effective in sites that are difficult to access, remote and open to visual detection of deer. Only possible in less populated sites in Victoria.
Trapping enclosures	A variety of traps are used to trap single or multiple deer such as Fallow deer, which are then shot in the trap. May be restricted in some areas because of the requirement for Public Place Permit. The use of these devices may require an Authority to Control Wildlife Permit.
Aerial surveys – drones, thermal tools	Surveys using thermal imaging can assist project development and establish deer numbers at a site. This technique can help direct shooters to deer sites, particularly use of drones.
Reflective devices that help keep deer away from roads when car headlights shine on their surfaces	This device is being trialled in two sites in north-east Victoria and has been used in other states and overseas.
Fox lights beams	Can be used to deter animals near assets, tricks animals into thinking someone is walking around with a torch, emits a flashing light. Not effective in the long-term.

Deer control and exclusion methods

Deer control can be undertaken through a range of techniques and excluding deer from assets can be achieved through a range of structures. Table 3 provides an overview of these methods.

Table 3: Control methods for deer control in Victoria

Control method	Advantages	Disadvantages	Applicable to peri-urban
<i>Primary</i>			
Shooting – Ground Ensure that the area is a permitted place to enable shooting. Check www.gma.vic.gov.au/	Target specific if done correctly. Allows for commercial harvesting if animals are retrievable and near a meat processing facility. Can use professional or volunteer shooters. Can be used in a range of terrains and scenarios. Sometimes gundogs or indicating dogs are used to help a professional shooter locate deer.	Difficult in thick vegetation. Restrictions in closely settled areas. Labour and skill speciality. Cost can be variable depending on access and deer densities and other factors.	Yes, but not all areas
Shooting - aerial	Effective over large areas. Effective for integrated pest control. Requires specialist operators and aircraft.	Perception that it is costly. Less likely to be used in closely settled areas.	Yes, but not all areas
Fencing and guards	Minimal impact on non-target species. Effective in peri-urban areas. Guard forms effective for single trees. Can work for other species at the same time.	Costly. Requires maintenance. Can have an impact on non-target animals. Shifts the problem.	Yes
Hound hunting / Dogging – using hound dogs to trail deer and chase them to a point where they are usually shot	Can result in control of high numbers of deer in some areas. Can be applied to areas of dense vegetation.	Can displace deer rather than capture them. Animal welfare concerns. Deer could run onto roadways and cause safety issues. Has firearm restrictions in peri-urban areas.	Yes, parts
Traps, single or coral	Target specific if done correctly. Can be done in closely settled areas if done correctly. Allows commercial use. Allows release of non-target animals.	Animal welfare implications. Time consuming. Costly purchase and construction. Can result in limited numbers being captured.	Yes
<i>Proposed</i>			
Bows	Target specific	Labour and skill intensive. Not suitable for large numbers. Animal welfare implications if best practice not adhered to. Perception of cruelty in public eyes.	Yes

Protecting Aboriginal cultural heritage

Areas of cultural heritage sensitivity are only defined for specifying when a cultural heritage management plan (management plan) must be prepared under the *Aboriginal Heritage Act 2006*.

Some land use and development activities are more likely to harm Aboriginal cultural heritage when carried out in an area of cultural heritage sensitivity. These activities are defined as 'high impact activities' in the Aboriginal Heritage Regulations 2018.

If a high impact activity is proposed in an area of cultural heritage sensitivity, a management plan must be prepared before any activity.

If a management plan is needed, an assessment must be carried out of the whole activity and not just the part of the activity that will occur in an area of cultural heritage sensitivity.

How do I know where there are areas of cultural heritage sensitivity?

The defined areas of cultural heritage sensitivity are shown on Aboriginal Victoria's [online mapping tool](#). Aboriginal Victoria maps these areas as accurately as possible, but this mapping is indicative only.

A heritage adviser can help determine whether land is in an area of cultural heritage sensitivity and should be engaged to find out the true geographic extent as defined in the Aboriginal Heritage Regulations 2018.

The [Aboriginal Cultural Heritage Guide for Landcare and environmental volunteering groups and networks](#) (Jan 2020) steps out the process for meeting the requirements of the *Aboriginal Heritage Act 2006* and helps groups and networks determine whether a Cultural Heritage Permit is needed. The guide also provides the key Aboriginal cultural heritage contacts, including for the 11 Registered Aboriginal Parties (RAPs) in Victoria.