



Inquiry into Ecosystem Decline in Victoria

Submission to the Victorian Legislative Council Environment and Planning
Committee

Introduction

The Australian Deer Association (ADA) represents the interests of over forty thousand licensed deer hunters in Victoria. The ADA advocates for sound, evidence-based management of wild deer in the Australian landscape and for appropriate access to public land for recreational hunters. Since its foundation in Melbourne over fifty years ago, the ADA has grown into a significant national organisation with active branches in every State and Territory of Australia.

The proceedings from the national feral deer management workshop held in Canberra in 2005 recognised that:

“Much research on the ecology of wild deer in Australia has been reported in Australian Deer, the journal of the Australian Deer Association (ADA)” and that “Most of the work reported in this journal was conducted by ADA members”. The paper goes on to say that up until then “Relatively little work has been published by people employed by State or Federal (e.g. CSIRO) research agencies. This contrasts with New Zealand, where most research on wild deer has been conducted by government agencies”.¹

A follow-up workshop of State and Commonwealth Government agencies was conducted in Adelaide on 17–18 November 2016, where many of the same players identified many of the same issues. At this point it is apparent that limited progress has been made on the subject of practical deer management in Australia over the intermittent 14 plus years.

The 2016 proceedings noted:

“Clearly a strategic ‘reset’ is required for the management of deer species across the Australian landscape”.²

The deer scene in Australia has changed markedly since the ADA was first established due to the increasing abundance and distribution of Australia’s various wild deer populations. Instances of overabundance are now an issue requiring active, collaborative, coordinated intervention and broad-scale ongoing management.

¹ McLeod S (Ed.) (2005). *Proceedings of the National Feral Deer Management Workshop, Canberra, November 2005*. Invasive Animals Cooperative Research Centre, Canberra.

² Forsyth D, Pople T, Page B, Moriarty A, Ramsey D, Parkes J, Wiebkin A, & Lane C (Eds) (2017). *2016 National Wild Deer Management Workshop Proceedings, Adelaide, 17-18 November 2016*. Invasive Animals Cooperative Research Centre, Canberra, Australia.

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The Role of Recreational Hunters in Deer Management

Ordinary recreational hunting

The role that recreational hunting plays in wildlife control and, subsequently, in mitigating adverse environmental impacts associated with overabundant wildlife is the subject of much contention and polarised opinion, but is not well researched, quantified or understood. Quite understandably there can be a tendency for ‘pro-hunting’ advocates to overstate the contribution and for ‘anti-hunting’ advocates to downplay it. A paper presented to a wildlife conference in Brisbane in 2016 is one of the few local efforts to properly understand the issue, it concluded that:

“Recreational hunting has been recognised as a legitimate use of some public lands in some Australian states, and there is increasing pressure to widen the types and extent of land available to hunters. However, existing hunting effort has rarely been effectively harnessed to achieve objectives relating to community values such as biodiversity conservation, agricultural protection and public health and safety. Moreover, there is substantial resistance to the use of public land for hunting from some parts of the community, and great scepticism about claims from hunting lobbyists and others that hunting is an effective means for reducing pest animal impacts for the benefit of the broader community.

Most of the claims made by pro- and anti-hunting campaigners remain hypothetical and unsubstantiated. Based on hypotheses emerging from an evaluation of factors likely to affect the ability of recreational hunting to advance pest management objectives, we expect that there are some situations in which hunting can make a useful contribution. However, these benefits cannot be evaluated or realised under current management regimes if useful objectives have not been determined and management agencies make little attempt to monitor or guide meaningful inputs, outputs or outcomes.

Good management of recreational hunting and pest animal populations and impacts is only possible if management agencies take a more active and strategic role. Furthermore, transparency and credibility are important foundations for the ongoing maintenance of recreational hunters’ social license to operate on public land. We therefore urge management agencies to take a more strategic approach to recreational hunting which will enhance the benefits of public investment for public land managers, hunters and the broader community.”³

Recreational deer hunters take around 150,000 wild deer a year in Victoria, mostly sambar, mostly on public land, mostly female⁴. Given the restrictions in place we expect a dramatic decline in the 2020 recreational harvest. The management and conservation implications of this gap will almost certainly never be properly reported on or quantified. They will also compound over the coming years. Just as regulated

³ Bengsen A, Sparkes J, McLeod S.R. (2016). Proceedings of the Conservation through the Sustainable use of Wildlife Conference 2016. University of Queensland Press.

⁴ Moloney P.D. and Powell Z. (2019). *Estimates of the 2018 deer harvest in Victoria.*

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deer hunting provides 'triple bottom line' benefits to the community (social, economic and environmental), the absence of hunting denies the community those benefits. As a rule of thumb, you can take about 25% of a deer population out through hunting in a given year without reducing the overall population. There are, of course, a number of variables in the growth curve including available resources and habitat and other causes of mortality such as predation and disease. All told, most Victorian deer hunters will miss at least fifteen weeks out of the twenty-four week 'peak' deer hunting period. This period accounts for the lion's share of Victoria's recreational harvest, with an average of around 4,000 deer a week. Even if we assume that the harvest has only been reduced by 80% over the lockdown and restriction periods, that's 48,000 deer not taken by hunters this year. A 25% increase on that is potentially 60,000 'extra' deer walking around next year, as many as 75,000 in 2022 and just under 100,000 the year after. The impact of those 'extra' deer numbers will vary, from benign in some areas to detrimental in others.

Co-ordinated deer management programs

Volunteers from the ADA are involved in Deer Management Programs across land tenures around Australia in conjunction with public, private and NGO land managers and other Volunteer organisations⁵. In Victoria these programs are predominately conducted in conjunction with Parks Victoria and focus on the protection of high value environmental assets.

The ADA has identified four relevant standards which are applicable to the DMP:

- hunter skill development
- volunteer management
- impact assessment
- program design and delivery.

If one objective of the ADA DMI is to elevate the standards of deer management in Australia, then it is axiomatic that the ADA must be prepared to involve itself with imperfect programs in order to bring about that improvement over time. That does not mean that the ADA is prepared to contribute to on-going sub-standard programs where there is little supporting evidence, and/or no intention to improve over time. If not present at the commencement of a project, there is a clear expectation that each project will strive to maximise their level of achievement against the relevant standards in the mid-to-long term. Like any quality management framework, the standards applied to the deer management programs map out best practice approaches. They do not prescribe how each standard is to be met, but describe the intent and criteria against which the level of achievement of that standard can be assessed.

⁵ Australian Deer Association Inc (2020). *Deer Management Initiative*.

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It is important to note that the ADA does not seek to dictate a mandatory “one size fits all” solution upon our partners.

It is widely recognised that the most difficult aspect of wildlife management is people management. The success of any collaborative arrangement is contingent upon the goodwill of all those involved, and a willingness to set aside differences of opinion at the margins in order to achieve common goals in the centre.

The ADA makes a distinction between membership and volunteering. Not all ADA members wish to volunteer for the deer management programs which the ADA are involved with, and ADA led deer management programs may need to include volunteers who are not ADA members. In order to facilitate these interactions, the ADA has adopted Volunteering Australia’s *National Standards for Volunteer Involvement*.⁶

Deer Management Options in Australia

The simple fact is that there are limited options currently available to manage over-abundant wild deer populations in Australia and amongst these limited options there are even less options that provide for feasible economic, humane on-going broad-scale management.

Ground shooting

Ground shooting is the most humane of the lethal options. Although time consuming and labour intensive, ground shooting is considered to be the most effective technique currently available for reducing deer populations⁷. There are three main types of ground shooting as follows:

Volunteer: Cost-effective long-term effort with similar competency to paid (“professional i.e. paid”) shooting, but stigmatised and often subject to unfounded bias by those opposed to recreational hunting, animal rights groups and sections of the pest-service industry which view unpaid hunters whether coordinated or not as competition or a threat to their interests.

Paid contractors or staff: Limited by both cost and availability. Tend to have accessibility to more effective equipment.

Commercial (market) shooting: Subject to the fluctuations of market demands and limited by the challenge of the requirement for consistent supply and quality of venison or by-products harvested. Can be cross subsidised to a degree with paid contractors or staff.

⁶ Volunteering Australia (2015). *National Standards for Volunteer Involvement*.

⁷ Sharp T. *PestSmart Standard Operating Procedure, Ground Shooting of Feral Deer*.

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Aerial/helicopter shooting

Good for initial knockdown in suitable terrain and vegetation types, but decreasing returns with effort generally make it financially unsustainable for on-going long-term broad-scale control and management of deer. High risk for both Work Health and Safety and animal welfare outcomes, and approximately three times the cost per animal as paid ground shooting operations. To date public reporting has been limited and opaque.

Exclusion fencing

Not always practical, expensive and with an ongoing maintenance obligation to remain effective. Consideration also has to be given to possible effects on the distribution and movements of larger native herbivores, possibly genetically isolating some populations and concentrating grazing or browsing pressure within the fenced area in drier years or post fire events. The fences could also have the effect of funnelling animals to unfenced areas.

If fencing is to be considered and implemented it could be a viable option following fire or weather events where significant amounts of fencing is replaced, i.e. wild dog fences replacing conventional farm fencing after the 2003 Great Alpine Fires in Victoria, NSW and the ACT. This could be a viable option in post-fire recovery in the 2019–20 fires in Victoria and NSW.

Chemical deterrents.

At present limited effect and effectiveness – also requires ongoing upkeep and maintenance. Repellents (topical application of distasteful chemicals or predator scent) may be useful at high-value sites, but are generally effective for short periods only (weeks–months).⁸

Contraceptives and immuno–contraception.

Very limited effect and effectiveness. Research published in 2004⁹ on contraceptive trials in *Rusa* in NSW established while it is possible to give a deer a contraceptive, costs in capturing, administering and possibly having to re-capture and re-administer make it prohibitive. Given the number of animals that would not be treated in a population, and the fact that those treated are still having an impact, this is simply not a feasible option.

⁸ Walter, W. D., Lavelle, M. J., Fischer, J. W., Johnson, T. L., Hygnstrom, S. E., and VerCauteren, K. C. (2010). *Management of damage by elk (Cervus elaphus) in North America: a review*. *Wildlife Research* 37, 630–646.

⁹ Webley, L., English, A., Trigg, T., & Cooper, D. (2004). *Long-term Contraceptive Implants as an Alternative Management Option for Wild Deer near urban environments*. *Proceedings of the 1st World Deer Veterinary Congress*, 77-79.

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Toxins

Other often-touted solutions such as toxins are some way from being viable, and bring with them a range of animal welfare, biosecurity and biodiversity concerns which a well-informed public (within Australia or overseas) are unlikely to tolerate. They also present a toxicity risk in wild shot venison to recreational and commercial hunters and threaten the farmed venison industry if a contaminated animal got into a pen and was subsequently killed and processed. The efficacy of poisoning varies with the mass of deer¹⁰ and food availability¹¹. Using poison would pose significant risks to non- target species in Australia¹².

Biological Control

Risk assessment for biological control is difficult because of how hard it is to predict community and ecosystem-wide impacts of introduced species and because introduced species disperse and evolve. Biological control introductions have adversely affected non-target native species in the past. Although many of these problems occurred in the early days of biological control, some are recent. Because of how little monitoring is done on species, communities, and ecosystems that might be affected by biological control agents, it is quite possible that known problems are the tip of an iceberg.

Regulations for officially sanctioned releases for biological control are insufficient, and there are also freelance unregulated releases undertaken by private citizens (e.g. dispersal of rabbit calici virus in the 1990's).

Cost-benefit analyses for conservation issues, including those associated with biological control, are exceedingly difficult because it is hard to assign values to the loss of species or ecosystem functions. Finally, biological control of deer does not appear to be a feasible option for managing deer because of the threat this would pose to farmed animals¹³.

¹⁰ Davis, N. *et al* (2016) *A systematic review of the impacts and management of introduced deer (family Cervidae) in Australia*. Wildlife Research, 2016, 43, 515-532.

¹¹ Crouchley, D., Nugent, G., and Edge, K.-A. (2011). *Removal of red deer (Cervus elaphus) from Anchor and Secretary Islands, Fiordland, New Zealand*. In 'Island Invasives: Eradication and Management'. (Eds C. R. Veitch, M. N. Clout and D. R. Towns.) pp. 422-425. (IUCN: Gland, Switzerland.)

¹² McIlroy, J. C. (1982). *The sensitivity of Australian animals to 1080 poison. III. Marsupial and eutherian herbivores*. Australian Wildlife Research 9, 487-503.

¹³ Nugent, G., Fraser KW., (1993) Pest or valued resources? Onlicts in management of deer. *Nugent, G., and Yockney, I. (2004). Fallow deer deaths during aerial-1080 poisoning of possums in the Blue Mountains, Otago, New Zealand. New Zealand Journal of Zoology* 31, 185-192.

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The adequacy and effectiveness of government programs and funding protecting and restoring Victoria's ecosystems

There is an opportunity cost to poorly scoped or bureaucratically burdened government control programs. Government agencies have displayed a tendency in recent times to focus control efforts onto paid contractors and aerial culling. The level of secrecy surrounding these arrangements makes it impossible to gauge their effectiveness on anything other than a superficial level.

We also know fire can play a significant role in the dispersal and fecundity of wild deer and, in the right numbers in the wrong places, that wild deer can have an unacceptable deleterious impact on environmental and agricultural assets.

The opportunity for all stakeholders in wild deer (particularly governments) right now is to do something real about wild deer management.

A well-resourced, strategic post bushfire deer management plan, if implemented now, could set the stage for far more sustainable wild deer populations going into the future — after 20 years, or more, of gradually losing control of wild deer management, there is a rare and slim opportunity to get ahead of the curve.

Such an approach perhaps won't serve the short-termism of three- or four-year government cycles, but, it will serve the interests of our forests, of agriculture and of the broader community (including hunters) for a generation or more.

We believe all management programs (whether they are using volunteers or paid shooters) should be underpinned by solid data to quantify the problem, a clear understanding of what needs to be achieved, appropriate resourcing to ensure targets can be met, and continuous monitoring and review to ensure that programs are meeting expectations. In almost all instances, this should include monitoring of vegetation, monitoring of deer abundance and, in the case of programs utilising volunteers, monitoring of volunteer sentiment.

Before public resources are expended on programs some simple questions should be asked and answered, such as:

- Is the problem clearly quantified?
- Is there a clear understanding of what is required to address the problem?
- Is the treatment possible/feasible through simply opening the area in question to recreational hunting?
- Is there robust monitoring of all species of wildlife involved in the undesired impact?
- Is there robust monitoring of the asset that is being impacted?
- Is there adequate resourcing to achieve the desired outcomes?
- Is there monitoring of stakeholder sentiment?

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In the scale of the issue we are looking at, there also needs to be a clear assessment of the application of resources according to the greatest need.

Whilst there will be a temptation to treat all deer and all places as equal, the cold hard reality is that such an approach will inevitably deliver little in the way of tangible, lasting results.

In New Zealand, ongoing management of wild sika deer to acceptable densities is achieved using helicopter culling above a density threshold and recreational hunting as the management tool below that threshold. This approach allows for resources to be applied for best use and for both hunters and regional economies to benefit from the recreational opportunity¹⁴.

Control efforts need to be specifically targeted at high-value assets and sustained over years — otherwise it's little more than a PR exercise.

Practical measures governments should take now to set deer management in bushfire areas on the best path are:

- An assessment of the likely available resources for deer management over the next five years (financial and human).
- An assessment of the priorities for management action based on a realistic understanding of resourcing — focus should be on high-value environmental assets and vulnerable agricultural assets.
- An empowerment of agencies to take a tenure blind approach as far as is practicable (it should be non-negotiable when it comes to public land tenure).
- A commitment to regular and transparent monitoring.

¹⁴ Australian Deer (2020). *Hunter led approach leads the way for wild Sika deer management in New Zealand.*

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