Australian Deer Association

DEER MANAGEMENT INITIATIVE

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1. Background

The Australian Deer Association (ADA) was established with the aim of developing a stewardship of Australia's wild deer populations for the country's benefit: socially, economically and environmentally. Since its foundation over 50 years ago, the ADA has grown into a significant national organisation with members in every State and Territory of Australia. In that time ADA has achieved much for the wild deer 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"*.

In the period from 2005 to 2016 the deer population in Australia grew markedly in distribution and abundance and increasingly gained the attention of State, Regional and Local Government departments and agencies, environmental groups, the general public and the media.

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 ADA questions whether this situation is acceptable.

The 2016 proceedings noted: *"Clearly a strategic 'reset' is required for the management of deer species across the Australian landscape. The top-down politically driven ideology that plagues our past and current efforts needs to be replaced with a bottom-up approach involving greater coordination and evidence based scientific knowledge informing both policy and management directions"*.

Until recently the published literature regarding deer in Australia read like a "who's who" of ADA members (Bentley, Downes, Moore, Slee, Draisma, and many others) however there is a broad recognition within the ADA that in order to maintain our reputation as *"The Deer People"*, the organisation must refocus and adapt to the current challenges and issues facing deer management in Australia.

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 broadscale ongoing management. This is what has now led the ADA to develop the Deer Management Initiative (DMI).

2. ADA principles for deer management in Australia

The ADA is an organisation in Australia with the capability to inject both practical knowledge and a skilled volunteer workforce into effective on-going community-based collaborative management programs for Australia's wild deer herds. In this paper, we present what we now consider the five principles that underpin best practice management of deer in Australia. They are:

1. All key stakeholders interested in deer management in Australia need to be actively engaged and consulted.
2. Rarely can deer in broader landscapes be eradicated.
3. Deer management needs to focus on the outcome, reduction in damage/impact, not just killing deer.
4. A whole-system approach is required for managing negative deer impacts.
5. An effective evaluation and monitoring strategy is essential for all deer management programs.

3. Current impediments to effective deer management in Australia

The current impediments to effective wild deer management in Australia are many and complex. It is recognised that, for a range of reasons, programs operate at different stages of maturity due to: cost constraints; knowledge gaps and misconceptions amongst those initiating, designing or delivering the programs; the unavailability of appropriate data; and unfortunately, philosophy, bias and dogma which are often passed off as "policy".

The ADA can either denigrate and criticise much of what currently passes for deer management and its associated policies in Australia, or it can work proactively alongside landowners, land managers, State, Regional and Local Government and other stakeholders to improve the situation for the common good. The ADA have always preferred the latter path.

The ADA believes deer management in Australia is an Issue-Evolution situation and requires an understanding of the processes whereby the presence of deer and deer management has become a bona fide public issue. Grappling with controversy of deer management in Australia is a challenge for all of the sectors and stakeholders who have an interest in deer or deer management.

The current controversy and sector clash around deer management can typically benefit by knowing the answers to three simple questions:

1. Where are we in the public or political life of this issue?
2. How far do we have to go to reach a decision about objectives or management actions?
3. How do we know whether we are making genuine progress?

4. DMI outline

The DMI is an ADA national initiative through which the ADA aims to contribute to improving the deer management situation in Australia, by providing expert advice for the development, implementation and review of deer management programs, and trained volunteers for deer management programs and research or data collection programs associated with the deer management programs.

5. DMI objectives

1. To ensure the appropriate management of deer by alleviating and treating impacts attributed to overabundant deer populations or deer present in locations /areas they are not wanted.
2. For the ADA to be respected as pragmatic, valuable partners in deer management.
3. To provide a nationally consistent, professional and easily engaged model so that Governments and other Volunteer Involving Organisations (VIO's) can partner with the ADA in order to achieve agreed deer management outcomes.
4. To allow the ADA to act as the "honest brokers" who bring the various parties involved in the management of Australia's wild deer herds together for the common good, and hold poorly designed and or implemented programs accountable.
5. To elevate the standards of deer management in Australia, through collaboration between partner agencies and subject matter experts, and the application of scientific principles and the use of data in the planning, conduct, evaluation and reporting of deer management related activities.
6. To drive or support research (including with funding and volunteer effort) that improves our understanding of deer and our ability to manage them.
7. To provide a vehicle through which interested ADA members can volunteer their unique skills and abilities in the DMP, and in doing so increase their knowledge of practical wildlife management and citizen science whilst assisting land managers in addressing the impacts of overabundant wild deer.

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 broadscale management.

6.1 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 populations[1]. There are three main types of ground shooting as follows:

Volunteer. Cost-effective long-term effort with equivalent 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

Commercial 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.

1. PestSmart Standard Operating Procedure, DEEO1 Ground shooting of feral deer prepared by Trudy Sharp.

6.2 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.

6.3 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.

6.4 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) (Walter *et al*. 2010 cited in Davis *et al*, 2016).

6.5 Contraceptives and immuno–contraception.

Very limited effect and effectiveness. Research published in 2004 (Webley *et al*, 2004) 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.

6.6 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 deer (Nugent and Yockney 2004 cited in Davis *et al*, 2016) and food availability (Crouchley *et al*. 2011 cited in Davis *et al*, 2016). Using poison would pose significant risks to non-target species in Australia (McIlroy 1982 cited in cited in Davis *et al*, 2016).

6.7 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 animals (Nugent and Fraser 1993).

7. Standards

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 DMI 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.

How each individual deer management project group decides to give effect to and satisfy those standards, is for each project group to decide and document.

It is important to note that the ADA does not seek to dictate a mandatory "one size fits all" solution upon our partners. This paper simply sets out how the ADA will organise and conduct itself within integrated management plans, as defined in the enabling instruments (e.g. MOUs, partnership agreements, etc.).

8.Volunteer management standards

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*.

Standard 1:	Leadership and management
Standard 2:	Commitment to volunteer involvement
Standard 3:	Volunteer roles
Standard 4:	Recruitment and selection standards
Standard 5:	Support and development
Standard 6:	Workplace safety and wellbeing
Standard 7:	Volunteer recognition
Standard 8:	Quality management and continuous improvement

These standards will be used when defining our volunteer engagement model for the overall program, and for specific projects conducted under the Program.

9. Impact assessment guidelines and principles for DMPs

The following guidelines describe the general principles which should govern and guide assessing the impact of DMPs:

- **Scoping:** to determine the environmental, social and economic issues relevant to a proposed DMP and the points in the decision-making process when these issues need to be addressed;
- **Technical analysis and assessment:** in terms of understanding the environmental effects (adverse and beneficial) of a proposed DMP, comparing options for achieving the proposed objectives of the DMP, and identifying mitigation measures for potential adverse impacts;
- **Reporting and stakeholder involvement:** commonly through a reporting or communication document for the land owner / land manager as well as other stakeholders and possibly government agencies; and
- **Independent review:** if the program is of sufficient size and status/interest and independent review of the program and its outcomes/outputs could be warranted.

10. Deer management program criteria

In mid-2016 ADA developed criteria by which to evaluate each deer management program, in order to assess ADA's appetite for potential or ongoing involvement.

We believe that all deer control programs (whether they are using volunteers, paid shooters or other means) should be underpinned by solid data to quantify the issue, a clear understanding of what needs to be achieved, appropriate resourcing to ensure that targets can be met, and continuous monitoring and review to ensure that programs are meeting expectations.

Assessment criteria as follows:

- Is the problem/issue clearly quantified?
- Is there a clear understanding of what is required to address the issue?
- Is the treatment possible/feasible through simply opening the area in question to some form of recreational hunting (assuming that is appropriate and achievable politically)?
- Is there robust monitoring of all species of wildlife involved in the undesired impact?
- Is there robust monitoring of the environmental asset which is being impacted?
- Is there adequate resourcing to achieve the desired outcomes?
- Is there monitoring of volunteer and community sentiment?

These criteria are consistent with those published independently by The Centre of Invasive Species Solutions.

11. Governance and strategic fit

As a single legal entity, the ADA Board are the body entrusted with the good governance and administration of the Association nationally. Board members are asked to take primary responsibility for one or more key areas of ADA activity.

In acknowledging the centrality of deer management to the ADA ethos, one Directorship is assigned to Deer Management. Recognising another area in which the ADA has a long and proud history of achievement, another Directorship is assigned to Education.

The Deer Management Initiative is intended to be a formal volunteering arrangement to be established within the ADA as a national Special Interest Group (SIG) which is independent of the current branch structure.

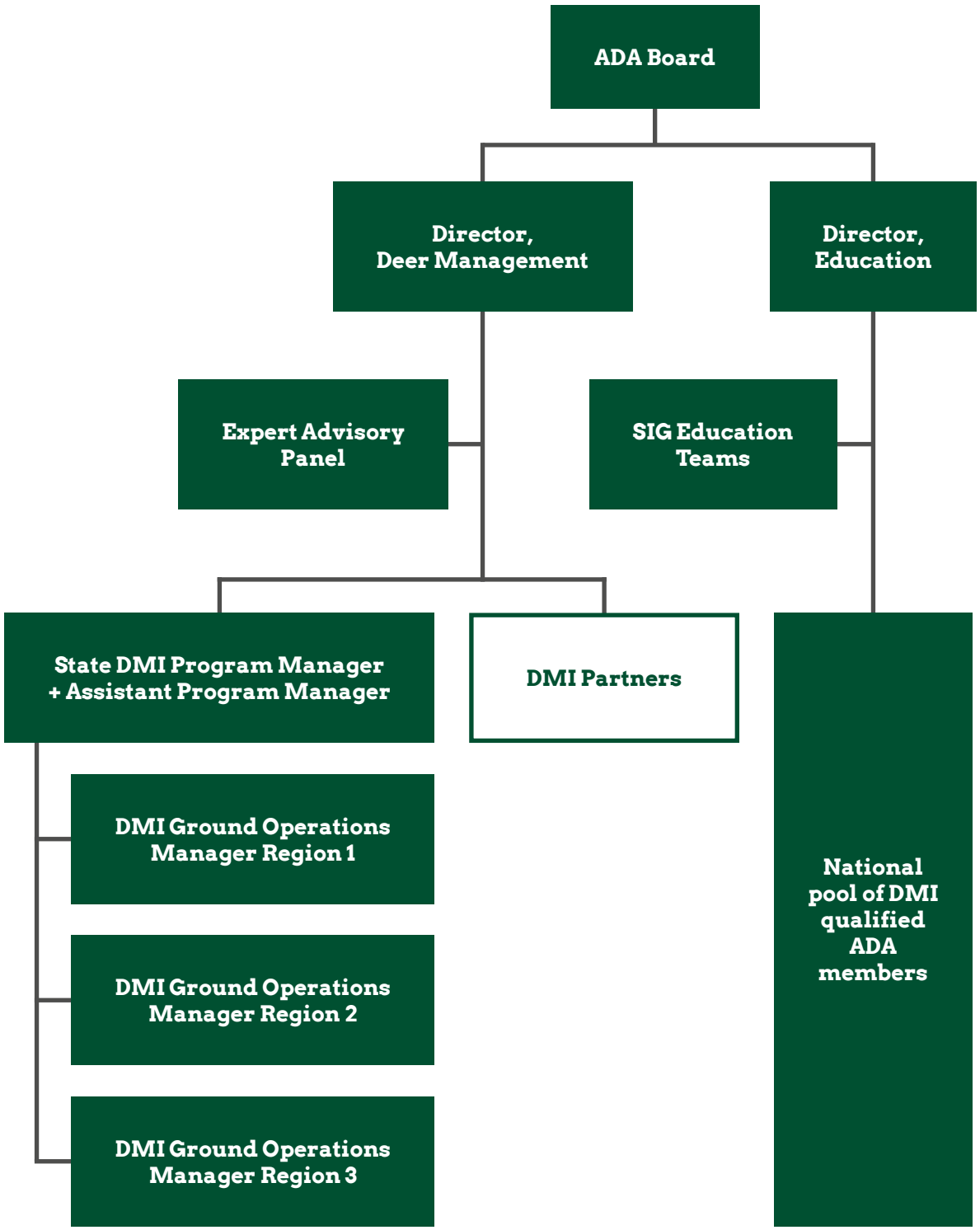
The rationale for this approach is that it:

- allows the ADA Board to ensure appropriate governance is in place across all deer management programs it involves itself with;
- draws from the widest possible pool of ADA volunteers, and offers those volunteers the best possible support;
- aligns most closely with the expectations and preferences of our partners;
- maximises the value of ADA's investment in support collateral (training material, default operations and risk management plans, equipment, administration and data management, etc.); and
- facilitates heuristic* and continuous improvement.

The DMP Special Interest Group (SIG) functions under the direction of the Director of Deer Management, and is supported by the Director of Education (refer DMP SIG Org Chart).

*"*A heuristic technique, often called simply a heuristic, is any approach to problem solving, learning, or discovery that employs a practical method not guaranteed to be optimal or perfect, but sufficient for the immediate goals*

12. DMI Organisation chart



13. Expert Advisory Panel

Aside from the knowledge base contained within its own membership, the ADA has relationships with a range of international and local experts in deer ecology and deer management, and seeks to leverage those relationships to enhance the effectiveness of the DMP. An Expert Advisory Panel will be established comprising members who are recognised experts in areas including: animal welfare, wildlife management and control programs, deer biology, and risk management.

Through the Expert Advisory Panel, the ADA will provide our partners with access to a well-respected knowledge pool. Deer management projects within the DMP can call upon this pool for advice and guidance. It is anticipated that the data generated and learnings from the DMP will be peer reviewed and published both locally (e.g. in the Australian Deer Magazine) and internationally.

In establishing and hosting the Expert Advisory Panel (EAP), through ad-hoc collaboration or through more formal conference style events, shared understandings will be developed and that *bottom up strategic* reset which has been called for will commence.

14. Annual "State of deer management in Australia" report

As an annual exercise, the ADA will evaluate all current deer management initiatives in Australia (whether the ADA is partnering with them or not) against the standards outlined below, and will publish that assessment.

Programs will be requested to self-assess against the standards. Where no response is received, consideration will be given to FOI requests to obtain the necessary input data.

Where input data is not made available, the presumption will be that the data does not exist and that particular project will be scored accordingly.

Members of the Expert Advisory Panel will be asked to be the independent reviewers of the report prior to its publication.

Potential exists to develop a series of national awards to recognise excellence in deer management.

15. HUNTS – the ADA Hunter National Training System

The ADA Hunter National Training System (HUNTS) is an education program for ADA Members. Hunter education and training is a key component of Deer Management Programs. HUNTS ensures that members wanting to participate in DMP operations are suitably educated and trained so that they have the skills to be able to undertake operations in a safe, legal, ethical and effective manner.

The HUNTS syllabus applicable to the DMP includes:

- Legal, ethical and environmental responsibilities.
- First aid.
- Navigation, map reading, GPS use.
- Firearm safety, selection and marksmanship.
- Deer biology and behaviour.
- Bush craft and survival.
- 4WD driving and vehicle recovery.
- Hunting equipment.
- Hunting techniques.
- DMP data collection.
- DMP Operations planning.

The ADA acknowledges that there may be variations in the core skills and training required to participate in programs in the respective States and will work with landowners and land managers to develop program requirements that are practical and applicable to the operations in their area.

16. Definitions

Term	Definition
ADA Branch Education Teams	Volunteers inside the ADA Branch structure who deliver training to ADA members under the leadership of Director, Education.
DMP Program Manager	Senior DMP Manager in each State, whose prime responsibility is VIO engagement and relationship management. Single point of contact for Senior VIO Reps.
DMP Assistant Program Manager	Delegates for Program Manager if required. Primary focus is the effective co-ordination of service delivery, including rostering and record keeping.
DMP Ground Operations Manager	Leads on the ground DPM operations for ADA, in line with policy and agreed SOP's. Single point of contact for local VIO Reps.
Expert Advisory Panel	Forum of acknowledged experts in deer ecology and related matters, who have volunteered their time to ensure that DMP projects have a factual basis, and are likely to succeed. VIO reps to be invited to EAP forums.
The status of deer	How deer are perceived by the general public.
***Formal volunteering**	Time willingly given for the common good and without financial gain, taking place within organisations (including institutions and agencies) in a structured way.
***Leadership and management**	The governing body and senior employees/volunteers lead and promote a positive culture towards volunteering and implement effective management systems to support volunteer involvement.
***Manager/s of volunteers**	The person/s who are responsible for the recruitment, induction, training and supervision of volunteers, and who provide ongoing support for volunteers in an organisation.
***National Standards for Volunteer Involvement (2015)**	The National Standards for Volunteer Involvement (2015) are recognised as the best-practice guide for volunteer involvement in Australia. The Standards are the intellectual property of Volunteering Australia.
***Recruitment and selection**	Volunteer recruitment and selection strategies, policies and procedures are planned, consistent and meet the needs of the organisation and volunteers.
***Volunteer Involving Organisation (VIO)**	Any organisation that engages volunteers may be known as a Volunteer Involving Organisation (VIO).
***Volunteers**	Those who give their time willingly for the common good and without financial gain.

**Definitions taken from the Volunteering Australia Common Language Guide, August 2018.*

17. References

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