

Submission

to the

Western Australia

Legislative Council, Public Administration Committee

**Inquiry into the potential environmental contribution of
recreational hunting systems in Western Australia**

Stephen Larsson

Introduction

Pest animals are one of the most serious threats facing Australian farmers. Wild dogs, feral pigs, foxes, rabbits and many other pest species have a tremendous impact on agricultural industries, both in lost production and control costs. Pest animals also impact on the environment, competing with native species, destroying native plants and causing land degradation.

Estimates of the financial cost of pest animals range from \$720million to \$1billion per annum.^{1,2}

The large number control options in use (poisons, biological control, exclusion fencing, trapping shooting, fumigation etc.) are a testament to the tenacity and difficulty of just controlling (let alone eradicating) pest animals. Most pests are highly mobile and those that do survive can readily replace those that are killed on individual properties.

There will never be adequate financial or manpower resources to eradicate established populations of pest animals; the best that can be done is to manage problems to an acceptable level of damage.

This submission offers nothing new in the war on pest animals - I wish it could! What I have tried to do is bring together information from a number of previous State and Commonwealth government inquiries that have investigated pest animals in Australia. In this sense, the inquiry reports distil the thoughts, comments and ideas of thousands of individual submissions. I have also drawn on an extensive collection of published papers in peer-reviewed journals and reports from government agencies involved with land management and pest control.

I have prepared this submission with not only a personal interest in pest management but a background relevant to the Inquiry: a bachelor of science degree in biology; 5 years with the NSW Department of Agriculture involving research and field work; author/co-author of several published papers on insect pest control; an 8 year term as a councillor on the Game Council of NSW where I was also a member of the Research Committee and Audit and Risk Committee; a 7 year term as an observer on the NSW Animal Welfare Advisory Council (AWAC); the author of approx. 20 submissions to the NSW and Commonwealth Government agencies on regional pest management strategies, invasive species plans and biodiversity strategies.

¹ NSW Department of Primary Industries. *NSW Invasive Species Plan 2008-2015*. Orange NSW August 2008. <http://www.dpi.nsw.gov.au/agriculture/pests-weeds/nsw-invasive-species-plan>

² The Senate. Environment, Communications, Information Technology and the Arts References Committee. *Turning back the tide - the invasive species challenge* December 2004. *Report on the regulation, control and management of invasive species and the Environment Protection and Biodiversity Conservation Amendment (Invasive Species) Bill 2002*. http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Completed_inquiries/2004-07/invasivespecies/report/index

In considering the potential contribution of recreational hunting in controlling pest animals on public land in Western Australia, there are a number of important concepts the Committee should be aware of.

The Concept of 'Nil-tenure'

'Nil-tenure' involves a consistent approach to land management across all land tenures, not just public land managers. It involves the removal of all land tenure issues from the planning stage which focuses attention on the problem, rather than on land ownership and the inevitable question of 'who pays'.

Nil-tenure is regarded as necessary to combat pest animal and other threats and address broader public land management issues.

Nil-Tenure can improve co-ordination of response effort and is especially important when considering pest animal control on public lands such as national parks and state forests where the cost and effort for management programs are not wholly borne by government, but shared in a collaboratively with private landholders and the community.

The Concept of 'Integrated Pest Management'

Integrated pest management uses a combination of practices and control methods to manage pests. The use of an appropriate combination of control methods is likely to be more effective than a reliance on one or two methods alone.

During his testimony to the 2012 NSW Parliamentary Inquiry into the management of public land in New South Wales³, Executive Director of Biosecurity NSW Mr Bruce Christie spoke to the Committee about the role of hunting in integrated pest management:

"The use of hunters in any context can be seen as part of a strategy. We do not look at any one particular strategy when we are trying to control dogs or other pests. Shooting is one of those options." and

"It does not matter where you go and what techniques you are using, the numbers have gone up because of the break in the drought... so we need to do more wherever we possibly can to try and control feral animals, including shooting."

John Tracey, Manager, Invasive Species, Biosecurity NSW, Department of Primary Industries also spoke to the Committee on the importance of integrated pest management:

"Basically the decision to put in hunters is up to the land manager. It certainly can be part of an integrated program, and that is our perspective, that is what we are encouraging takes place."

³ Management of public land in New South Wales. New South Wales Parliament, Legislative Council, General Purpose Standing Committee No. 5. Sydney, N.S.W., May 2013.
http://www.parliament.nsw.gov.au/Prod/Parlment/committee.nsf/0/18B4C6B001E0D367CA2579E9000215C2?open&refnavid=CO4_1

The Concept of 'Sustained Effort'

Despite many decades of intensive effort, no widespread pest animal species has ever been eradicated from mainland Australia. At present, such an objective remains unrealistic.

Intensive, high-cost control for a year or so is typically followed by periods of little management effort as resources and interest wanes, until the pest animal's high reproductive rates mean that numbers build up again.

Generally, a more cost effective approach to pest management involves budgeting for initial high-level population knockdown followed by ongoing maintenance control.⁴

Volunteer recreational hunters can provide a sustained, on-going pest animal control effort that is typically absent from most government pest control programs which suffer the vagaries of cyclic budgetary constraints.

Findings from previous Government Inquiries

(a) *NSW Parliamentary Inquiry into the Management of Public Land in New South Wales*³

In 2012 the NSW Parliament's General Purpose Standing Committee No 5 (GPSC5) inquired into the management of public land in New South Wales, including State Forests and National Park estate. Many of that Committee's findings and recommendations are directly relevant to the current WA Inquiry. The GPSC5 report affirms the beneficial role that volunteer recreational hunters can play in controlling pest species:

"In addition to baiting programs for wild dogs, pigs and other land-based feral animals, shooting, either ground based or aerial, can be part of feral animal control strategies." and

"The NSW Government informed the Committee that it had recently, under strict conditions, extended its program of pest control to allow licensed hunters to cull feral animals in national parks. At present, licence holders are allowed to remove game and feral animals from declared State forests. The NSW Government put forward the view that, in State forests, this helps to 'exert downward pressure on feral animal populations'."

⁴ Quentin Hart and Mary Bomford. *Australia's Pest Animals: New Approaches to Old Problems*. Science for Decision Makers series, Bureau of Rural Sciences, February 2006.

<http://www.acera.unimelb.edu.au/materials/brochures/SDM-AustraliasPestAnimals.pdf>

(b) House of Representatives Inquiry into the Impact on Agriculture of Pest Animals⁵

In assessing the potential environmental contribution of recreational hunting systems in Western Australia I draw the Committee's attention to the following statements in the final report from this Commonwealth inquiry.

"Despite the widespread use of baiting and fencing, shooting is still an important part of many programs for dealing with pest animals, particularly large animals such as dogs, pigs, donkeys, camels and goats, and native species such as possums and kangaroos"

"Hunting organisations have also made important contributions to pest animal control efforts in particular regions. For example, Victorian hunters from FGA participated in a fox bounty trial that destroyed more than 198,000 foxes in just over twelve months".

"One of the advantages of utilising sporting and hunting organisations is that their members are usually accredited and have undergone some kind of training"

"It was suggested that responsible shooting organisations could be supported to conduct control operations, possibly through subsidisation of ammunition"

"Although the committee supports the use of individual hunters to assist landowners in controlling pest animals on their land, hunting must be appropriately regulated to ensure that it is conducted safely, humanely and responsibly."

(c) NSW Legislative Assembly Inquiry into Managing Climate Change Impacts on Biodiversity⁶

The terms of reference for this 2009 NSW Parliamentary inquiry included examining options for improving strategies in order to ensure that ecosystems are resilient to the likely impacts of climate change including increasing invasion of weed and pest species.

There are two points from this inquiry that are relevant for consideration by the current inquiry Committee.

⁵ The Parliament of the Commonwealth of Australia. *Taking Control: a national approach to pest animals*. Inquiry into the impact on agriculture of pest animals. House of Representatives Standing Committee on Agriculture, Fisheries and Forestry. November 2005, Canberra.
http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=primind/pestanimals/report.htm

⁶ Return of the ark: The adequacy of management strategies to address the impacts of climate change on biodiversity / Legislative Assembly, Standing Committee on Natural Resource Management (Climate Change). [Sydney, NSW] : The Committee, 2009.
<https://www.parliament.nsw.gov.au/Prod/parlment/committee.nsf/0/9DEA10FCCD2704B5CA25768700241496>

Firstly, the NSW Inquiry heard from the NSW Farmers' Association that pest animals were not being adequately managed on public land. Mr Rod Young, Chair of the Conservation and Resource Management Committee within the NSW Farmers' Association, told the Committee:

"In my opinion more emphasis should be placed on pest animal control on our public land. I have observed and I have gained a lot of experience from the landowners adjoining public land along the escarpment country. It is obvious that invasive species such as wild dogs, cats and foxes in particular, need to be reduced."

Secondly, in response to one submission that proposed the use of volunteer hunters to help control pest species on public land, Professor Ralf Buckley, Director and Chair of the International Centre for Ecotourism Research at Griffith University, said to the Committee:

"If the parks agency decided to run a particular program of feral animal control in which it invited appropriately pre-qualified private hunters to join it, I do not see that that would be a problem."

This latter comment attests to the relative safety of hunting compared to other outdoor recreation activities conducted on public land and waterways.

Views of Australian Wildlife Management Experts

(a) In their 2003 report on the management of feral animals in national parks by the NSW National Parks and Wildlife Service, Professor Tony English, Faculty of Veterinary Science, the University of Sydney and Dr Roslie Chapple, School of Science and Technology Studies, University of New South Wales stated:

"Hunting has the potential to assist with conservation objectives, yet it is rarely promoted as a conservation tool, especially by government. It also has the potential to generate income, through professional game hunting activities, to local communities that may have little other opportunity to derive income from their land and the wildlife inhabiting it. It can also be considered as an alternative land use strategy for individual landowners who have game species such as deer on their property, eg. fallow deer hunting in Tasmania." ⁷

It was around the time of this report that State and Commonwealth Governments started to adopt a more enlightened view towards hunting as a pest management option, as shown by the support in the government inquiries cited previously.

⁷ English, A. W. and Chapple, R.S. 2002. A Report on the Management of Feral Animals by the New South Wales National Parks and Wildlife Service, Hurstville NSW July 2002.
<http://trove.nla.gov.au/work/28259395?selectedversion=NBD24849907>

(b) A survey of professional wildlife managers was undertaken during the 2002 **Australian Wildlife Management Society (AWMS)** annual conference. The survey examined the values and attitudes of Australasian wildlife managers on wildlife management issues including: *management/consumptive use of wildlife* and *protection of wildlife/compassion for individual animal*.⁸

This survey showed that a clear majority of Australian wildlife managers endorse the role of 'hunting' in managing wildlife populations:

79% of respondents **disagreed or strongly disagreed** with the statement
'hunting is morally wrong because it violates the right of an individual animal to exist'

74% of respondents **agreed or strongly agreed** with the statement
'it is possible to view wildlife with reverence and still participate in hunting'

67.7% of respondents **disagreed or strongly disagreed** that
'hunting is justified only when it is necessary to sustain human life'

Economic, Cultural, Social benefits

The impacts of pest species are not *all* negative. Camels, rabbits, foxes, carp and goats are a significant factor in the management costs for invasive species, however they also provide employment opportunities in rural and regional Australia.

- Export of feral camels to the Middle East is worth more than \$2 million per annum;
- Export of fox pelts was estimated as being worth about \$8 million per annum in 1984
- Commercial harvesting of carp was worth a gross total value of \$1.7million in 2002
- Export of feral goats was worth a gross value of \$29 million in 1993.

These are just a few of the harvesting, hunting and fishing options available for public land under 'multiple-use' land management.⁹

A 'multiple-use' approach to national park estate could meet conservation objectives while achieving economic and social outcomes at the same time. As expressed by the President of the NSW Farmers Association Ms Fiona Simson, managing national parks through a multiple-use approach would provide 'a triple bottom-line benefit to the community, to the region, to the environment and to the State'.³

Animal Welfare / Humaneness

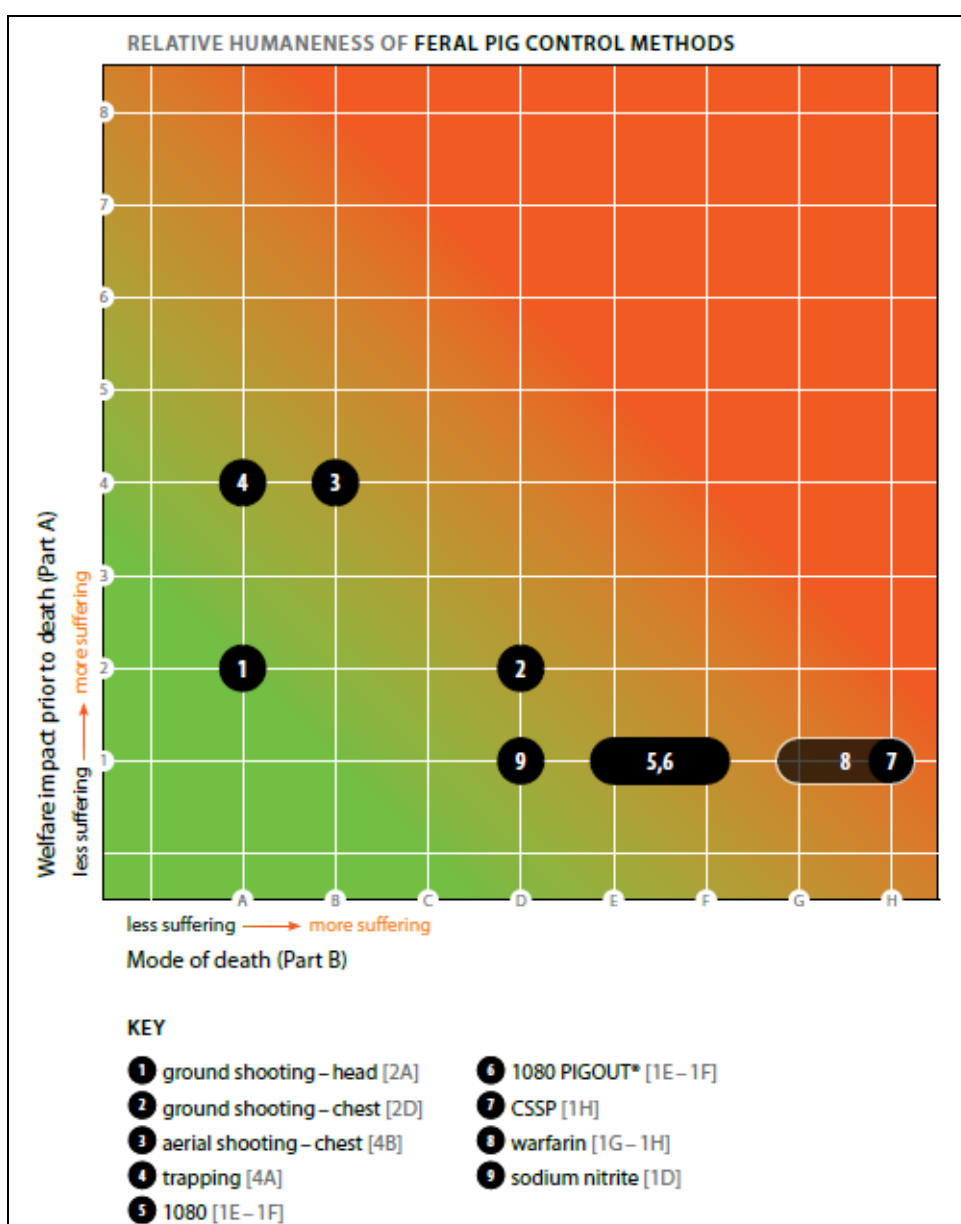
⁸ Miller KK and Jones DN 2005. Wildlife Management in Australia: Perceptions of Objectives and Priorities. *Wildlife Research* 2005, 32, 265-272. <http://www.publish.csiro.au/paper/WR04042.htm>

⁹ NSW Department of Primary Industries. NSW Invasive Species Plan 2008-2015. Orange NSW August 2008 <http://www.dpi.nsw.gov.au/agriculture/pests-weeds/nsw-invasive-species-plan>

In any discussion of lethal methods to control pest animals the issue of animal welfare needs to be considered.

Animal Rights and Animal Welfare supporters will vigorously argue that lethal control is inhumane and that shooting is especially abhorrent. The truth is that lethal control by shooting is a more humane death than other commonly used pest control methods such as poisoning, trapping.¹⁰

The figure below (from 10) shows 'Ground Shooting - head' to be relatively more humane than other methods commonly used to control this species.



¹⁰ A model for assessing the relative humaneness of pest animal control methods. Second edition June 2011. Vertebrate Pest Research Unit – Industry & Investment NSW. <http://www.daff.gov.au/animal-plant-health/welfare/aaws/humaneness-of-pest-animal-control-methods>

In 2003, the RSPCA organised a workshop on humane vertebrate pest control¹¹. The following statement by RSPCA puts the 'humaneness' versus 'efficacy' issue into perspective:

Ranking humaneness against efficacy

"It was generally agreed that the selection of the most appropriate vertebrate pest control technique required consideration of both humaneness and efficacy: decision-making concerning the continued use or specific need for using particular techniques could not be based upon humaneness alone. In the absence of a humane alternative, especially in the face of a valid need to address high priority needs, a technique that is considered to have poor humaneness may be justifiable if it has high efficacy. Conversely, some techniques that are considered humane may have low efficacy and cannot therefore be justified in any circumstances where desired objectives cannot be met."

Species Specificity

A key issue when considering pest control, especially in areas where threatened species are present is 'target specificity' of the control method(s) under consideration. It would be potentially catastrophic if, in an area where a rare and threatened native species was found, a non-selective lethal control method was used to control a pest species. The risk of inadvertently exposing the threatened native species is too great.

In their 2007 review on the future prospects for immuno-contraception in vertebrate pest management McLeod *et al.* presented a useful table comparing control methods against criteria that define the 'ideal' control method.¹² Table 1 from McLeod paper shows that 'Shooting' compares very favourably with other control methods.

¹¹ A national approach towards humane vertebrate pest control. *Discussion paper* Arising from the proceedings of an RSPCA Australia/AWC/VPC joint workshop, August 4-5, 2003, Melbourne. <http://kb.rspca.org.au/afile/152/4/>

¹² SR McLeod, G Saunders, LE Twigg, AD Arthur, D Ramsey and L. Hinds. Prospects for the future: is there a role for virally vectored immunocontraception in vertebrate pest management. *Wildlife Research*, 2007, **34**, 555–566. <http://www.publish.csiro.au/paper/WR07050.htm>

Table 1. The relative rankings of broad-scale vertebrate pest-control methods scored against criteria that define an ideal method
 In each case we assume that the method is used correctly. The order of the ranks is: High, Medium, Acceptable and Low. Ranks labelled as ‘Unknown’ are due to insufficient data to categorise the criterion

| | Effectiveness | Ease of use | User safety and safety of others | Affordability | Humaneness | Species specificity | Environmental safety |
|--------------------------------|---------------------|-------------------|----------------------------------|-------------------------|-------------------|---------------------|----------------------|
| Poison baiting: acute toxins | High | Medium | Acceptable | High | Acceptable | Medium | Medium |
| Poison baiting: chronic toxins | High | Medium | Medium | Medium | Low | Medium | Medium |
| Shooting | Acceptable | Acceptable | Acceptable | High^A | Medium | High | Medium |
| Trapping | Acceptable | Low | High | Acceptable | Low | Acceptable | High |
| VVIC | Unknown | Medium | High | Unknown | High ^B | Medium | High |
| Chemical repellents | Acceptable | Medium | Medium | Acceptable | High | Low | Medium |
| Visual and auditory repellents | Low | Acceptable | High | Acceptable | High | Low | Medium |
| Ultrasonic repellents | Low | Medium | High | Acceptable | High | Low | High |
| Biological control | Medium ^C | High | High | High | Acceptable/Low | High | High |
| Fumigation | Medium | Low | Low | Medium | Acceptable | Medium | Acceptable |
| Exclusion | High | Acceptable | High | Low ^D | High | Low | Acceptable |
| Explosives | Medium | Medium | Low | Medium | Low | Medium | Acceptable |

^AOnly if the cost of labour is not included, otherwise the method is Acceptable.

^BThe use of vector viruses that cause pain and suffering would reduce the humaneness of VVIC to Low.

^CInitial control of pest rabbits using the biological control agents rabbit haemorrhagic disease virus and myxoma virus were highly effective, but factors such as the increasing prevalence of lower virulence strains and host immunity have reduced their effectiveness.

^DExclusion can be highly cost-effective when used in small areas for the protection of highly valued resources.

From SR McLeod, G Saunders, LE Twigg, AD Arthur, D Ramsey and L. Hinds. Prospects for the future: is there a role for virally vectored immunocontraception in vertebrate pest management. *Wildlife Research*, 2007, **34**, 555–566. <http://www.publish.csiro.au/paper/WR07050.htm>

Public Safety

Public safety is of paramount importance in any consideration of using hunting to control vertebrate pests on public land.

Philosophical opposition to hunting, although very vocal, is based largely on ignorance and misinformation. The reality is, like any other dedicated outdoor recreational sportsperson, hunters are passionate about their sport. They are especially mindful of safety and do not risk breaking the rules as they know this would mean immediate cancellation of their firearms licence, confiscation of their firearms and loss of hunting privileges.

A report¹³ prepared in 2010 by the Victorian Institute of Forensic Medicine on data contained in the National Coronial Information System (NCIS) shows cause of deaths related to hunting, compared to other outdoor sports. The table on the following page from this report is self explanatory.

¹³ Victorian Institute of Forensic Medicine. Australian External Cause Deaths while Engaged in Hunting Activities 1 July 2000- 1 August 2010. http://www.ssaa.org.au/hunting/educational-resources/2010-08_australian-external-cause-deaths-engaged-hunting-activities.pdf

Sport and Recreation Codes/Jurisdiction

Table 1. External Cause Death Frequency for closed cases on NCIS by type of Sport/Recreation Activity

| Code/Jurisdiction | ACT | NSW | NT | QLD | SA | TAS | VIC | WA | Total |
|--|-----|-----|----|-----|----|-----|-----|-----|-----------------|
| Individual Water Based Fishing, Other Individual Water Based, Surf Life Saving, Surfing, Swimming, Underwater Sports (Scuba Diving/Snorkeling), Water Skiing, Wind Surfing | 6 | 283 | 39 | 172 | 62 | 34 | 136 | 132 | 864 |
| Motor Go-Karting/Karting, Motor Cycling, Motor Racing – Car, Other Motor | <3 | 46 | 11 | 30 | 14 | 20 | 16 | 33 | Between 170-173 |
| Aero Gliding, Hang Gliding, Other Aero, Parachuting, Para-Gliding | <3 | 20 | 3 | 9 | 3 | 3 | 28 | 7 | Between 72-75 |
| Wheeled BMX, Cycling – Mountain, Cycling – Road, In-line Skating (Roller Blading), Other Wheeled, Skateboarding | <3 | 37 | <3 | 16 | 10 | 12 | 23 | 9 | 111 |
| Boat Boat including Canoeing, Other Water Team, Rowing, Yachting | 0 | 26 | <3 | 16 | 12 | 7 | 21 | 10 | Between 92-95 |
| Equestrian Other Equestrian, Racing, Trail or General Riding | 0 | 10 | <3 | 13 | <3 | <3 | 6 | 3 | 35 |
| Adventure Hiking, Mountaineering, Other Adventure, Rock Climbing | 0 | 7 | <3 | 5 | <3 | 4 | 10 | 4 | 34 |
| Individual Land Based Athletics, Orienteering, Other Individual Land Based | 0 | 11 | <3 | 8 | 4 | 0 | 10 | <3 | 36 |
| Target Billiards and Snooker, Darts, Golf, Lawn Bowls, Shooting | 0 | 7 | <3 | 3 | <3 | 0 | 8 | <3 | 22 |
| Ball Team Australian Football, Basketball, Futsal (Indoor Soccer), Netball, Other Ball Team, Rugby League, Rugby Union, Soccer, Touch | 0 | 5 | 0 | <3 | <3 | 0 | <3 | <3 | Between 9-12 |

From: Victorian Institute of Forensic Medicine. Australian External Cause Deaths while Engaged in Hunting Activities 1 July 2000- 1 August 2010.
http://www.ssa.org.au/hunting/educational-resources/2010-08_australian-external-cause-deaths-engaged-hunting-activities.pdf

Conclusions

- 1. Recreational hunting offers a very cost-effective ("nil" cost) option to help in the management of pest animal species on public land;**
- 2. Contrary to popular opinion and misinformation from anti-hunting groups recreational hunting is a remarkably safe sport, much more so than recreational fishing;**
- 3. Given the large area of public land, and the constant threats and complex challenges from pest animals, volunteer hunting is underutilised in control programs in WA; and**
- 4. With allocation of adequate financial and personnel resources to establish a suitable administrative structure to manage hunter licensing, safety, education and compliance there is no reason why the highly successful 'Game Council model' for hunting on public land in NSW cannot be duplicated in Western Australia.**