Submission on proposed declaration of 39 NSW state forests for hunting

November 2011

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invasive species council

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The Invasive Species Council campaigns for better laws and policies to protect the Australian environment from weeds, feral animals and exotic pathogens.

Formed in 2002, we were the first environment group in the world to focus solely on invasive species.

With introduced pests one of the top and growing threats to native species and ecosystems, involving complex biological and social interactions, this specialist focus is needed.

A non-profit organisation, we work with other groups on policy and legal reform, campaigning for action on high priority pests.

We have a strong commitment to using the best science available to inform our advocacy work and through our board, staff and membership have access to excellent in-house weed and pest expertise.

The Invasive Species Council is committed to fostering community participation and activism, supporting our members to have a voice on invasive species issues.

Submission on proposal to declare 39 state forests for hunting

1. Introduction

We write to oppose the proposed declaration of 39 NSW state forests for recreational hunting, which is being misconstrued as feral animal control.

As an environmental NGO campaigning for stronger laws and policies to protect the Australian environment from invasive species, we understand and promote the need for effective feral animal control programs. Many NSW state forests have important biodiversity values that are threatened by feral animals, and the NSW Government has obligations to maintain these values by conducting control programs.

NSW Government officers have been at the forefront of Australian efforts to define the elements of effective control programs, having recognised that feral animal control is very difficult, has been insufficient to protect declining Australian wildlife and can compromise animal welfare. Sharp and Saunders (2007) state there are "three essential requirements for a pest control technique – necessity, effectiveness and humaneness." They have developed codes of practice and standard operating procedures for control of particular feral animal species (see http://www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/codes-of-pratice/operating-procedures/humane-pest-animal-control), including all species targeted by recreational hunters in NSW state forests.

It is clear that the ad hoc hunting in NSW Forests managed by the Game Council breaches these government-mandated standards for effective and humane control. The claims that recreational hunters in state forests are conducting feral animal control is inconsistent with population biology, animal welfare and principles of program management. There are considerable differences between ad hoc killing of feral animals for recreation and the control of feral animals in programs to achieve defined goals.

Recreational hunters *can* contribute to control of established feral animal populations in specific circumstances:

- when they participate in well-planned control programs with defined goals that meet criteria for effectiveness, or
- when they exert sufficient sustained pressure over small accessible areas.

The former circumstance typically applies when skilled shooters are used to supplement other methods in professionally managed control programs – in Operation Bounceback in South Australia, for example, ground shooting by volunteers has supplemented aerial shooting and baiting to control foxes and goats. The latter circumstance applies on some farms, where trusted recreational hunters can be directed by the farm manager to target particular species in particular locations to protect farm assets, or similarly on properties to protect particular conservation assets. Neither circumstance applies to ad hoc hunting in state forests.

We recommend against the declaration of state forests for recreational hunting because it is inconsistent with criteria for effectiveness and breaches the government's own standards for feral animal control.

Public funding for the Game Council should be re-allocated to control programs that are consistent with the Government's codes of practices and standard operating procedures to achieve defined high-priority public good goals. The 2010-11 allocation to the Game Council of $2.8 million is substantially greater (>150% greater) than that spent by Forests NSW ($1.7 million in 2009-10) on both weed and pest control.

Here we outline in more detail why opening state forests to ad hoc recreational hunting fails to achieve feral animal control.

2. Feral animal population biology

"Implementing effective and humane pest control programs requires a basic understanding of the ecology and biology of the targeted pest species" (Sharp & Saunders 2007).

Claims that ad hoc hunting can control feral animals are based on a false premise: that whenever an animal is killed, the population drops. Feral animals are typically highly fecund and mobile, and many populations are saturated with a large 'doomed surplus' (who would normally die due to lack of resources), factors which enables them to quickly replace animals killed by hunters.

Hunters are likely to mostly kill individuals of the 'doomed surplus', inexperienced young with no territory to occupy that would have died anyway (from starvation, disease or predation). About 85% of feral pigs studied in Kosciuszko National Park died within their first year (Saunders 1993a) and only 1-10% of rabbits usually survive their first year (Sharp and Saunders 2007a). The majority of foxes killed by hunters are juveniles (Coman 1988; Saunders and McLeod 2007). Hunting frees up

resources so that otherwise-doomed individuals survive. Those killed may also be replaced by animals moving in from other areas.

Unless hunters kill more feral animals than can be replaced each year, they do not reduce populations. The thresholds for population reduction vary between species, regions and seasons, but the estimates in Table 1 give some idea of how difficult it is to achieve population reductions.

Table 1. Examples of estimated proportions that need to be killed annually to achieve population reduction

Species	Max annual proportion of animals to remove to stop population growth	Reference	Numbers killed by recreational hunters in state forests 2009-10
Rabbits	87%	Hone (1999)	7646
Pigs	70%	Saunders (1993b); Giles (2001)	2269
Foxes	65%	Hone (1999)	1482
Goats	35%	Parkes et al. (1996)	2958
Cats	57%	Hone et al. 2010	203
Rusa deer	46%	Hone et al. (2010)	641 (all deer species)
Sambar	40%	Hone et al. (2010)	

The Game Council does not conduct monitoring to assess the outcomes of recreational hunting in state forests, but it is clear from the numbers that it is very unlikely to achieve any beneficial reduction in feral animal populations (see Tables 1 and 2). More than half the animals killed were rabbits. The futility of this is clear when the figure of fewer than 8000 rabbits killed is measured against the approximate 90% mortality required to reduce populations.

We note that the Public Benefit Assessment produced annually by the Game Council is farcical in assigning a public benefit of $368 for each deer killed and $50 for each other feral animal killed on public lands (Game Council 2011). There is zero public benefit and substantial public costs unless such killing contributes to effective control. It is an affront to those managing proper control programs for the Game Council to claim that recreational hunting "facilitated by the Game Council is significantly more cost-effective when compared with the other State government agencies involved in game and feral animal control on public land" (Game Council 2011).

Table 2. Game Council performance statistics 2010-11, NSW state forests
(Game Council 2011)

Feral animals killed	15,898
Rabbits	7646
Pigs	2269
Goats	2958
Foxes	1482
Cats	203
Deer	641
Dogs	78
Hares	621
Area state forest open for hunting	2.2 million hectares
Feral animals killed / area	1 per 138 ha
Hunting days in state forests	14,870
Feral animal killed / hunting day	1.07
State government funding of Game Council	$2.82 million
Public funding / feral animal killed on public land	$177

3. The elements of effective control programs

According to government protocols, control programs should be carefully planned and co-ordinated to meet defined objectives of desired environmental or economic outcomes (NSW DPI n.d.). Programs should be monitored to assess whether objectives are met. Effective programs should reduce the "the need to cull large numbers of animals on a regular basis" (Sharp & Saunders 2007).

By operating with no specific goals, no targets, no monitoring, no quality control over skill, no integration with other programs, the ad hoc recreational hunting conducted in state forests meets none of the standards developed by government pest experts (eg. Norris and Low 2005, Sharp and Saunders 2007b). It is further constrained by the limited effectiveness of daytime ground shooting, hunters' preferences for trophies (ie male animals), and motivations to sustain and increase game populations.

The Game Council licencing system is designed to maximise hunting opportunities and limit hunter pressure on feral animal populations by permitting no more than an average of one hunter to operate over an area of 400 ha.

Ground day shooting (even using skilled shooters) is not an effective means of primary control for most feral animals and according to government standards should only be used as part of co-ordinated programs, usually as a supplement to other more effective methods of control. Bow hunting and black powder shooting, permitted in some NSW state forests, are even less effective than ground shooting, and are never used in professional control programs. Spotlight shooting, not permitted in state forests, is considerably more effective for some species (particularly deer) than day hunting.

4. Skill and motivation

Hunters have highly variable skill levels (no skills tests are conducted for licencing) – in 2009-10, each hunting day in state forests resulted on average in one feral animal killed (mostly rabbits). Shooting to achieve humane outcomes requires skill. For example, the Standard Operating Procedure for deer specifies that shooters should be able to consistently shoot not less than three shots within a 10cm target at 100 metres, and be able to "accurately judge distance, wind direction and speed" (Sharp & Saunders 2004). This is not a standard required of recreational hunters to obtain a licence.

Hunters often prefer to kill large trophy males, which makes little contribution to control because in polygamous species such as deer, pigs and goats the remaining males can inseminate all the females. Hunters are also likely to be motivated to maintain feral animal populations for future hunting, leaving young and females.

Of great conservation concern is that hunters have also shifted feral animals into new areas. A survey in 2000 found that 58% of known Australian deer populations had probably established due to illegal translocation (Moriarty 2004). Maverick hunters have also shifted pigs into new areas, as substantiated by genetic evidence (Spencer and Hampton 2005). The federal threat abatement plan for pigs plan notes that "continued release of feral pigs for hunting, either in new areas or in areas that they do not currently occupy is a major threat to effective management of feral pigs and their damage" (Commonwealth of Australia 2005).

There are problems also with hunters undermining professional control efforts, by making feral animals more wary or limiting the potential for professional control programs. NSW pest control officers have found that deer become much more elusive after deer hunting, necessitating more expensive and time-consuming control techniques (Glover in Martin 2009). Pig hunting, particularly with dogs, can disperse pigs or make them more wary (Commonwealth of Australia 2005; Nowlan 2008). The federal threat abatement plan notes concerns that the dogs take non-target wildlife "as it is not possible for hunters to continuously control their dogs during hunting forays", and escaped pig-hunting dogs are a serious concern for some sheep and cattle farmers.

5. Conclusion

As Australia's history of extinctions and declines caused by feral animals attests, effective control is very difficult. Even when hunting was a much more prevalent activity, it failed to achieve sustained control of feral animals. The intensification of hunting pressure through bounties has also failed – as recently as 2002-03 with the Victorian fox bounty (Fairbridge and Marks 2005). Huge numbers of feral animals are killed by hunters for no environmental or economic benefit.

We urge the NSW Government to heed the work of its own biologists and direct public funding to programs that meet the standards specified in codes of practice and standard operating procedures. Skilled recreational shooters may be able to participate in effective control programs, but the ad hoc hunting in state forests facilitated by the Game Council does not qualify as feral animal control.

6. Recommendations

The Invasives Species Council that the NSW government

- Withdraw the declaration of 39 additional state forests for recreational hunting.
- Redirect the funding currently provided to the Game Council to high priority, professionally-managed feral animal control programs on public lands.
- Invite recreational shooters who pass a skills test to contribute to these feral animal control programs on public land where this will assist in achieving program goals.

7. References

Coman B. 1988. The age structure of a sample of red foxes (*Vulpes vulpes*) taken by hunters in Victoria. Australian Wildlife Research 15(3): 223-30.

Commonwealth of Australia. 2005. Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs. Canberra: Department of the Environment and Heritage. www.environment.gov.au/biodiversity/threatened/tap-approved.html.

Fairbridge D, Marks C. 2005. Evaluation of the 2002/03 Victorian Fox Bounty Trial. Frankston: Vertebrate Pest Research Unit, Department of Primary Industries.

Game Council of NSW. 2011. Public Benefit Assessment. Report on the benefits in 2010-11 of a developing environmental and economic powerhouse in Regional NSW.

www.gamecouncil.nsw.gov.au/docs/2011GCPublicBenefitAssessment.pdf

Giles JR. 2001. The dynamics of feral pig populations in Australia: implications for management. *Feral Pigs: Pest Status and Prospects for Control. Proceedings of a Feral Pig Workshop James Cook University, Cairns March 1999*. C Johnson, Cooperative Research Centre for Tropical Rainforest Ecology and Management**:** 39-42.

Hone J. 1999. On rate of increase (*r*): patterns of variation in Australian mammals and the implictaions for wildlife management. Journal of Applied Ecology 36: 709-18.

Hone J, Duncan R, Forsyth D. 2010. Estimates of maximum annual population growth rates (r_m) of mammals and their application in wildlife management. Journal of Applied Ecology 2010, 47, 507-514.

Martin D. 2009. Feral deer. Background Briefing, ABC Radio National.

Moriarty A. 2004. The liberation, distribution, abundance and management of wild deer in Australia. Wildlife Research 31: 291-299.

Norris A, Low T. 2005. Review of the management of feral animals and their impact on biodiversity in the rangelands. Canberra: Pest Animal Control CRC.

Nowlan S. 2008. Rudi Pleschutschnig, feral animal trapper. Parkwatch (December): 22-23.

Parkes JP, Henzell R and Pickles G. 1996. *Managing vertebrate pests: feral goats*. Bureau of Resource Sciences., Canberra.

Saunders G. 1993a. The demography of feral pigs (Sus scrofa) in Kosciusko National Park, New South Wales. Wildlife Research 20: 559-69.

Saunders G. 1993b. Observations on the effectiveness of shooting feral pigs from helicopters. Wildlife Research 20: 771-76.

Saunders G, McLeod L. 2007. Improving fox management strategies in Australia. Canberra: Bureau of Rural Sciences.

Sharp T and Saunders G. 2004. *DEE001 Ground shooting of wild deer. Standard operating procedure.* NSW Department of Primary Industries and Department of Environment and Heritage. httP://www.deh.gov.au/biodiversity/invasive/publications/humane-control/.

Sharp T, Saunders DA. 2007a. Model code of practice for the humane control of rabbits. NSW Department of Primary Industries.

http://www.invasiveanimals.com/downloads/COP_for_rabbits.pdf.

Sharp T, Saunders G. 2007b. Model code of practice for the humane control of foxes. NSW Department of Primary Industries. http://www.invasiveanimals.com/downloads/COP_for_foxes.pdf.

Spencer PBS, Hampton JO. 2005. Illegal translocation and genetic structure of feral pigs in Western Australia. Journal of Wildlife Management 69: 377-384.