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Is Hunting Conservation?

A critique by ISC policy officer Dr Carol Booth of 'Recreational hunting and its place within Australia', an issue of the *Australian Shooters Journal*.

Introduction

Recreational hunters are trying to claim the high conservation ground because they kill feral animals. In recent advertisements promoting deer hunting, the NSW Game Council used the slogan 'Hunters – First in Conservation'¹. The latest issue (Volume 11, Issue 1)² of the Australian Shooters Journal (ASJ), published as "the political voice" of the Sporting Shooters Association of Australia (SSAA), claims to substantiate the claims that recreational hunting is of great conservation benefit, with the SSAA president, Bob Green, stating in the introduction:

The following research piece provides a snapshot of the history of sustainable hunting and the way hunters were and continue to be at the forefront of conservation well before it became 'fashionable' to mainstream society. Hunters lobby for the better and 'wiser' use of land. They cull pest animals and manage other species - something that has aided native animal populations much more than the 'protectionist' or 'lockout' viewpoint of people who do not support hunting or are not aware of its benefits.

The relevant claims of the Sporting Shooters Association in this issue of their journal can be summed up as:

- (1) There is "an abundance" of scientific evidence that recreational hunting is effective for feral animal control and highly beneficial for conservation;
- (2) Recreational hunters offer a "free" or "low cost" service that governments should use to control feral animals on public lands; and
- (3) The motivations of hunters are aligned to conservation, and provide the most effective basis for conservation.

Bob Green claims that it is only "minority groups" with "extreme ideologies" who oppose recreational hunting for feral animal control (p. 3). In fact, no mainstream



conservation NGOs have supported their claims, and the opening up of state forests and national parks for recreational hunting has sparked widespread community opposition for reasons including compromised public safety and enjoyment of public lands, and impacts on animal welfare and conservation.

Of all conservation NGOs, the Invasive Species Council has the strongest potential reasons to support recreational hunting on public lands, for it campaigns for more effective control of feral animals. But the council opposes recent moves to open up state forests and national parks to recreational hunters because evidence shows that recreational hunting usually does not provide effective feral animal control and creates a serious risk of worsening feral animal problems. Here, we provide a critique of the three sets of claims about recreational hunting and feral animal control made in the Australian Shooters Journal.

Footnotes:

² Sporting Shooters Association Australia (2009).

¹The full-cover advertisements appeared in many newspapers in NSW and Victoria on 28 February to promote the start of the NSW deer season on 1 March. They were headlined 'Hunt deer this year', and included the claim that "Removing game and feral animals protects our State forests.'

Claim 1: There is "an abundance" of scientific evidence that recreational hunting is effective for feral animal control and highly beneficial for conservation

Relevant quotes from the ASJ about recreational hunting as a feral animal control strategy include:

Conservation hunting is a valuable pest management strategy where many thousands of volunteer hunters can get involved.

The use of low-cost volunteer conservation hunters ... is one way to assure the success of a [feral animal control] program, as well as resulting in additional social, environmental and economic benefits.

Relevant quotes from ASJ about the claimed environmental benefits include:

For many years, hunters have undertaken this activity knowing that each pest animal they take is one less to harm the environment and in doing so will reduce the pest animal's economic cost to society.

Although it is rewarding in some cases to bring back some food for the table, it is certainly also rewarding to know that the hunter has prevented environmental damage caused by these pest animals.

Relevant quotes from the ASJ about there being a wealth of scientific evidence to justify their claims include:

To prohibit something based on extreme ideology is just plainly not fair and when there's a wealth of scientific research to support hunting, then it would be just plain stupid.

... there is an abundance of scientific evidence to suggest that recreational hunting provides many benefits.

Despite rhetoric about the "abundance" of evidence, no scientific publications are referenced to support the ASJ's claims about the efficacy of recreational hunting for feral animal control and conservation. Their main reference is a polemic essay by David Carter, a vertebrate ecologist, on a website called the Global Gun Site, from which much of the text for the ASJ articles has come.³ Carter's essay also does not provide evidence of the claimed benefits for feral animal control, other

than to cite one instance of recreational hunters working successfully with South Australian wildlife authorities to control goats.

The flaw in the hunters' position is revealed in the claims made about ducks. In seeking to justify duck hunting, the ASJ states that hunters do not reduce duck populations, but instead kill "surplus" ducks: the "millions of birds ... [that] die naturally through starvation, predation, disease, exposure and injury" (p. 8). It cannot logically be argued that every feral animal killed by hunters "is one less to harm the environment" but that hunting makes no difference to waterbird populations (whose populations are in decline, unlike those of feral animals).

Controlling feral animal populations is very difficult, and in many cases futile, because feral animals are highly mobile and highly fecund, and able in most cases to quickly replace those killed. There is typically a large "doomed surplus", some of which are more likely to survive when hunters kill others. Unless hunters kill more feral animals than can be replaced by migration or survival of those that would otherwise die, they do not reduce populations. For many feral animals, this requires up to half or more of a population to be killed annually.

Table 1 shows the number of feral animals killed by hunters over the past two years in NSW state forests, according to the Game Council's annual reports. The numbers killed amount to less than two feral animals (half of them rabbits) on average per licenced hunter, and less than one animal killed per hunting day in 2007-2008. The table highlights the trivial numbers of feral animals killed by recreational hunters, probably not even 1 per cent of the populations targeted, far less than is needed to either reduce feral animal populations or their environmental impacts.

The futility of the recreational hunting effort can be exemplified by considering the situation for foxes and deer.

Victoria had a fox bounty in 2002-03 that resulted in 170,00 dead foxes, but was abandoned because it didn't work. A 2005 review of the scheme by DPI biologists Fairbridge and Marks found that it reduced fox abundance in less than 4 per cent of the state, and that numbers would quickly bounce back or climb even higher as a consequence of hunting. Biologists had estimated that a 65 per cent annual reduction in fox populations was needed to make any difference. The area of NSW

Footnotes:

³ Carter (2008).

⁴ Eg. Fairbridge and Marks (2005) regarding foxes.

⁵ Game Council NSW (2007); Game Council NSW (2008). The 2006-07 annual report states there were 3861 licences issued for hunting in state forests, so the ratio is 1.4 animals killed/licence issued. The 2007-08 annual report states there were 7645 written permissions covering a total of 8600 hunting days, without specifying the exact number of 'R-licences'. Assuming there were at least 4000 licences issued the ratio is less than 2 animals killed/licence. The ratio of animals killed/hunting day is 0.9.

⁶ Game Council NSW (2007); Game Council NSW (2008). Sources for population numbers are (a) deer: Moriarty (2004); (b) foxes: Commonwealth of Australia (2007b); goats: Commonwealth of Australia (2007c); pigs: Commonwealth of Australia (2007d); Rabbits: Invasive Animals CRC (2007).

⁷ Fairbridge and Marks (2005).

Sharp & Saunders (2004). They explain that "Young, inexperienced foxes, which are easily lured into the shooters range, are more likely to be killed by shooting. To compensate for this bias, the breeding and survival of remain-



Feral animals killed	2007-08	2006-07	Total (average/year)	Estimated Australian population
Deer	410	291	701 (350)	>200,000
Foxes	724	519	1243 (622)	7.2 million
Goats	1037	1039	2076 (1038)	>2.6 million
Pigs	1081	983	2064 (1032)	3.5-23.5 million
Cats	136	143	279 (139)	18 million
Dogs	55	51	106 (53)	
Rabbits	4076	2078	6154 (3077)	Many millions (10 billion in 1926)
Hares	242	244	486 (243)	
Total	7761	5348	13,109 (6554)	

Table 1: Feral animals killed in NSW state forests by recreational hunters.6

state forests open to recreational hunting is about 10 per cent of the area of Victoria, but the numbers of foxes killed annually by recreational hunters in the forests have amounted to less than 1 per cent (0.3 per cent) of the level achieved under the failed Victorian bounty. In the NSW Department of Primary Industries' standard operating procedure for fox control, Sharp and Saunders note that shooting "is ineffective in significantly reducing fox populations, particularly over the longer-term."

In the past two years, recreational hunters have killed on average 350 deer a year in NSW state forests. This is only a few more than the 300 rusa deer that need to be killed annually in one relatively small national park in New South Wales (Royal National Park) to achieve slight population reductions (0.4 per cent), according to estimates by the NSW Department of Environment and Conservation.⁹ Aerial shooting by a skilled professional can be much more effective than ground shooting by recreational hunters. In South Australia, for example, one helicopter marksman shot more than four times as many deer in four hours as 65 recreational hunters did in four days in a conservation reserve.¹⁰

Recreational hunting for feral animal control in NSW state forests is contrary to recommendations by government experts and does not meet basic standards expected of professional programs. According to the authors of numerous standard operating procedures for feral animal control, Sharp and Saunders, "There are three essential requirements for a pest control technique – necessity, effectiveness and humaneness." They recommend in general that ground shooting "should only be used in a strategic manner as part of a co-ordinated pro-

gram designed to achieve sustained effective control."¹² At best, a small proportion of the more skilled recreational hunters may be able to contribute to professional feral animal control programs where ground shooting is needed to supplement other, usually more effective, methods in a management program with defined goals. But recreational hunting is not occurring as part of integrated control programs in NSW state forests.

A recent federal government report by the Pest Animal Control CRC on the management of feral animals (in the rangelands) provides the following guidance.¹³ Programs need to "be carefully planned and co-ordinated", based on an understanding of the impacts of the target feral animals, with clear, realistic goals and assessment of all possible solutions, and they need to be monitored. The goals "should be set in terms of biodiversity benefits, not numbers of pests killed". A complimentary suite of the "most effective and humane" techniques should be used in an integrated approach. Codes of practice and standard operating procedures should be adhered to "to ensure safety, humaneness and effectiveness." Plans need to be integrated for effectiveness and to prevent harmful consequences such as the proliferation of rabbits when foxes and cats are controlled or the targeting of vulnerable native mammals by feral predators when rabbits are controlled.

The only way recreational hunting can satisfy these conditions is if it is part of a professional program with defined environmental goals, if on-ground shooting is effective, if only highly skilled and responsible hunters are permitted to participate, and if the program's effectiveness is monitored. Control programs should not

ing animals is enhanced. Also, dispersal of foxes from the area decreases whilst the rate of fox immigration from other areas increases."

⁹ NSW Department of Environment and Conservation (2005).

¹⁰ Anonymous (2004); Peacock (2008).

¹¹ Sharp and Saunders (2007c).

¹² See various standard operating procedures at http://www.dpi.nsw.gov. au/agriculture/pests-weeds/vertebrate-pests/codes/humane-pest-animalcontrol.

¹³ Norris et al. (2005).

Feral animal	Efficacy of ground shooting (by skilled shooters)				
Rabbits	66 not an effective means of reducing rabbit populations"; "may have limited use in controlling light infestations, but ineffective in significantly reducing populations or even maintaining them at low levels".				
Foxes	fineffective in significantly reducing fox populations, particularly over the longer-term"				
Pigs	except in exceptional circumstancesnot considered to be an effective technique for control"; "can be counter-productive to other techniques in that it can disperse pigs or make them more wary"				
Goats	only suitable for smaller scale operations" or "if used in conjunction with other control methods such as muster- ing or trapping"				
Deer	considered to be the most effective technique currently available" (however, aerial shooting can achieve much greater effectiveness); "To keep stress to a minimum, shooting operations should occur on moonless nights with the aid of spotlights"; "Silenced rifles may also reduce animal disturbance and facilitate accurate shooting."				
Dogs	16 not effective"; "not appropriate for reducing populations over extensive areas."				
Cats	66 limited effectiveness"; "best suited to smaller isolated areas such as islands".				

Table 2: Efficacy of ground shooting for feral animal control.¹⁷

start from the premise that recreational hunting will be used, but should only include it if it meets the goals and conditions for effectiveness, necessity and humaneness. One success in using volunteer shooters was with control of feral goats for operation Bounceback 2000 in South Australia, where shooting was used in conjunction with other methods. However, the situation is not comparable with the Game Council 'program' because the success was only achieved by "having well-defined objectives and coordinating the volunteers to maximize efficiency and efficacy"¹⁴, which does not occur in NSW state forests.

As outlined in **Table 2**, ground shooting is not considered effective for control of most feral animals; it may be useful as a supplement to other methods but only in some circumstances when carried out by skilled shooters. Shooting by spotlight at night is typically more effective for deer, foxes and cats than shooting during the day, but this is not allowed for recreational hunters in state forests. Shooting of pigs, particularly with dogs, can be counterproductive because it disperses them or makes them more wary.

Variable levels of hunting skill undermine animal welfare as well as control of feral animals. As Sharp and Saunders say in standard operating procedures, "Shooting is a humane method ... when it is carried out by experi-

enced, skilled and responsible shooters." They note that although deer are comparatively large, "the vital areas targeted for clean killing are small." They recommend that shooters should "be able to consistently shoot a group of not less than 3 shots within a 10cm target at 100 metres" and be able to "accurately judge distance, wind direction and speed and have thorough knowledge of the firearm and ammunition being used." These are not standards that recreational hunters are required to meet when issued a licence.

Claim 2: Recreational hunters offer a "free" or "low cost" service that governments should use to control feral animals on public lands

Relevant quotes from the ASJ about the cost-effectiveness of recreational hunting include:

It would certainly seem odd for governments not to utilise the 'free' resource that the conservation hunter across Australia can provide.

The use of low-cost volunteer conservation hunters, who freely offer their time and services, is one way to assure the success of a program ...

Footnotes:

- ¹⁴ Commonwealth of Australia (2007c).
- $^{\rm 15}$ Game Council NSW (2006), except "under special circumstances", which are not defined.
- ¹⁶ Commonwealth of Australia (2005).
- ¹⁷ Sources are (a) rabbits: Commonwealth of Australia (2007a); (b) foxes: Sharp and Saunders (2007a); (c) pigs: Commonwealth of Australia (2005); (d) goats: Sharp and Saunders (2007b); Commonwealth of Australia (2007c); (e) deer: Sharp and Saunders (2004); (f) dogs: Sharp and Saunders (2007c); cats: 18 NSW Auditor General (2006) notes that "The Treasurer also approved the Council requesting a TCorp loan not exceeding \$1.0 million in 2006-07

with the expectation that the Council should become self-funding from 2007-08."

- ¹⁹ Minister for Agriculture (2006).
- ²⁰ Advertised in The Weekly Times, 19 November 2008: "Property Based Game Management in Victoria". The advertisement said in part, "As a landowner or manager, does the prospect of receiving a monetary or inkind payment for providing access to hunters to hunt game species on your property interest you?".
- ²¹ For example: \$5 million, 1998-2001, for NSW shooting clubs; \$600,000, 1991-2006, for the NSW Shooting Association to conduct testing and licens-



The key results of the establishment of the Game Council are: increased opportunities for recreational hunters to hunt; the outsourcing of pest management to a low cost alternative (volunteers) to reduce costs to taxpayers; and the reduction of pest animal populations that negatively have an impact on native fauna and flora.

When feral animal control is not effective, it cannot be cost-effective, even if the service is provided for free. However, leaving aside ineffectiveness, the "outsourcing" of control to recreational hunters is far from free. In recent years, very large sums of taxpayers' money have been paid to support recreational hunting in NSW and Victoria, money that could have achieved effective feral animal control if it funded professional control programs.

As **Table 3** shows, direct government funding for the NSW Game Council has totalled \$9.4 million over 6 years of operation, about \$12 million when licence fees paid by hunters are included. Although the NSW Government expected the Game Council to be self-funding from 2007-08 (according to the NSW Auditor-General's audit report of 2005)¹⁸, its funding for the body has been increasing. The government has provided an average \$3.2 million per year for the past two financial years (2007-09), close to \$4 million a year if licence fees are included. The difference between revenue from licence fees (about \$0.5 million a year) and operating expenses has ranged from about \$1.5 - 1.8 million over the past three financial years (to June 2008), with no sign of a capacity for self-funding.

In Victoria, the Department of Sustainability and Environment funds a Game Management Unit, the total



Fox carcases strung on a fence near Echuca. Photo: Zoe Phillips, The Weekly Times.

funding for which is unknown. In 2006, the government announced an extra \$2.5 million funding over five years for three government gaming officers.¹⁹ The government is also proposing a scheme to promote hunting of deer and native birds on private property.²⁰

State governments also support shooting organizations with grants totalling hundreds of thousands of dollars a year.²¹ In addition there are indirect forms of financial assistance, one of the most lucrative of which may be the NSW firearms licensing scheme, which allows shooting groups to earn large sums of money by conducting and charging for mandatory firearms safety awareness tests.²²

Year	NSW Government funding	Licence fee revenues (\$'000)	Expenditure (\$'000)
2003-04	\$750,000	-	\$723,000
2004-05	-	\$426,000	\$1,495,000
2005-06	\$2,000,000	\$379,000	\$1,862,000
2006-07	\$250,000	\$467,000	\$2,229,000
2007-08	\$3,516,000	\$546,000	\$2,040,000
2008-09	\$2,884,000	NA	NA
Total	\$9,400,000	\$1,818,000	\$8,349,000

Table 3: NSW Game Council: Revenue and Funding, 2003-09.23

ing; \$450,000 for gun clubs in 2007-08; \$540,000 funding for gun clubs in 2008-09; An intended \$5 million grant for the Hilltop shooting complex (as well as the excise of 1000 ha from the Bargo State Conservation area); \$226,690, 2007-11, for Sporting Shooters Association of Australia, Victoria. ²² Eg. See http://www.parliament.nsw.gov.au/prod/PARLMENT/hansArt.nsf/V3Kev/LC20051108060

²³ Funding information came from the Game Council's annual reports, available at http://www.gamecouncil.nsw.gov.au/portal.asp?p=Reports.

	2007-08	2006-07	Total (average/year)
Total feral animals killed in state forests	7761	5348	13,109 (6554/year)
NSW government payment to Game Council	\$3,516,462	\$250,000	\$3,766,462 (\$1,883,231/year)
Direct taxpayer funding/animal killed	\$453	\$47	\$287
Total admin expenses of Game Council	\$2,040,000	\$2,192,000	\$4,232,000 (\$2,116,000/year)
Expenditure/animal killed	\$263	\$410	\$323
Hunting days approved	8600	NA	
Animals killed/hunting day	0.9	NA	

Table 4: NSW Game Council costs per feral animal killed.²⁸

As **Table 4** shows, for the past two financial years through direct government funding for the NSW Game Council, taxpayers have paid \$287 per feral animal killed in state forests, and \$323 has been spent by the Game Council for each feral animal killed in the forests.²⁴

If spent on professional feral animal control programs, the millions of dollars of government funds directed to ineffective recreational hunting could have achieved substantial outcomes for conservation.

Effective fox control is very expensive, but the average \$3.2 million granted annually to the Game Council for the past two years could have paid for fox control over 40 times the area of state forests 'controlled' by hunters. ²⁵ The \$3.2 million is about 30 times that spent on rabbit control by the NSW government (\$108,000 in 2001-02). ²⁶ The cost of controlling goats by aerial shooting or by mustering, the most effective methods, are also regarded as expensive, but the NSW government funding per feral animal killed through the Game Council is 10-22 times as expensive. ²⁷

Claim 3: The motivations of recreational hunters are aligned to conservation, and provide the most effective basis for conservation

Relevant quotes from the ASJ about the conservation virtues of hunters include:

...it is the hunter who still understands the relation-

ship between the environment and ourselves.

Hunters have a very proud history of maintaining sustainable populations of game species that they wish to utilise, as well as protecting other species from exotic animals.

Hunters also know that game species are better managed within an open season arrangement that guarantees the utilisation of a sustainable resource year after year when conditions allow.

They [hunters] cull pest animals and manage other species — something that has aided native animal populations much more than the 'protectionist' or 'lockout' viewpoint of people who do not support hunting or are not aware of its benefits.

The ASJ's claims about the value of hunters to conservation in Australia, including that they have a "proud history" of protecting native wildlife from exotic species, are outlandish. In fact, recreational hunters have been one of the greatest contributers to feral animal problems in Australia. Foxes and rabbits were introduced into Australia for hunting, and hunters more recently have moved pigs, deer and other feral animals into many new areas. This is occurring at an alarming rate. The major concern of the Invasive Species Council is that by opening up state forests and national parks to hunters, state governments will create incentives for maverick hunters to move feral animals into these areas and build up their prey numbers. The articles in the ASJ claim that hunters are motivated to maintain "sustainable" populations of 'game' animals. When the game animals are feral ani-

Footnotes:

²⁴ This does not include feral animals killed on private land by hunters, but arrangements between landholders and hunters occurred prior to the existence of the Game Council.

 ²⁵ Commonwealth of Australia (2007e) notes that the estimated cost of fox control is about \$1.3 million for control over about 35 000 square km per year.
 ²⁶ Commonwealth of Australia (2007a), citing English and Chapple (2002), note that funding for operational programs for rabbit control in NSW was \$84,000 in 2000-2001 and \$108,000 in 2001-02.

²⁷ Commonwealth of Australia (2007c) notes that aerial shooting costs \$13-

³⁰ per goat, and mustering \$20-21/goat.

²⁸ Game Council NSW (2007); Game Council NSW (2008).

²⁹ Pavlov (1995).

³⁰ Commonwealth of Australia (2005).

³¹ Spencer and Hampton (2005).

³² Nowlan (2008)

³³ Moriarty (2004).

³⁴ West and Saunders (2007): Some may be due to greater awareness of deer, some due to escapes from deer farms, but many or most have prob-

mals this motivation undermines conservation.

According to Pavlov, writing about pigs in the Australian Museum's 'Mammals of Australia', a rapid increase in distribution from the 1970s in NSW and Queensland was due to "deliberate release of piglets and juveniles by unscrupulous hunters."29 The federal threat abatement plan for feral pigs 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."30 This problem was confirmed by evidence from a recent genetics study by Spencer and Hampton in southwest Australia, where feral pig populations are expanding and increasing, which found intermixing of pigs from different areas that could not have occurred naturally.31 The researchers concluded that feral pigs were being "deliberately and illegally translocated to supplement recreational hunting stocks".

Hunters may also compromise professional control programs. A Parks Victoria Pest Animal Officer who traps pigs and dogs in the Eastern Alps in Victoria, found that pig hunters "do a lot more harm than good, chasing pigs into new areas and making them wary and hard to catch." The government's pig traps have been vandalised and stolen, and trapped pigs "let loose for future hunting."³²

More than half of the 218 feral deer herds in Australia identified in 2000 appear to have derived from illegally translocated deer, presumably to create more hunting opportunities (there is no other likely explanation).33 There has been a dramatic increase in this practice in recent years, and many deer have been shifted into national parks and state forests. Thirty new locations for feral deer in NSW were observed between 2002 and 2004, probably most due to hunters.³⁴ Deer can be bought cheaply from failing or struggling deer farms.³⁵ In NSW national parks and state forests, deer with ear tags from deer farms located far away have been found, suggesting that hunters have bought the deer in one location and seeded them in another.³⁶ Three men were recently fined in South Australia for releasing 30 fallow deer onto a property for hunting, but it is usually impossible to detect such illegal activity.³⁷

The conflict between hunters' motivations and conservation is made explicit by the goals and actions of the Australian Deer Association. The association's vision is

for deer to be managed as a 'valuable public resource', and 'for the benefit of the deer themselves.'³⁸ The association took the Victorian Government to court to try to stop the declaration of sambar deer as a threat to biodiversity under the Flora and Fauna Guarantee Act.³⁹

It is a matter of concern that the Game Council of New South Wales has a mandate to manage Californian quail, pheasant, chukhar partridge, peafowl and turkey for hunting even though none of these species yet occur in the wild on mainland Australia.⁴⁰ All of these birds have formed feral populations elsewhere in Australia or overseas. Conservationists fear this will lead to their release for hunting.

Commercial hunting properties are also a major environmental concern because proponents have a direct financial incentive to build up populations of feral animals. On Cape York Peninsula, buffalo, deer and blackbuck Antelope were recently freed on two unfenced properties to create opportunities for hunting.⁴¹

Recreational hunters have variable levels of skill. A New Zealand assessment found that fewer than 5 per cent of recreational hunters shot more than half the deer killed.⁴² When skill levels are low, not only are fewer feral animals shot, but animal welfare and human safety are put at risk.

Problems also occur when hunters use hunting dogs, which sometimes become lost or escape. Escaped pighunting dogs are a serious concern for some sheep and cattle farmers — "The biggest problem we face are the dogs which are either abandoned or lost by pig hunters" — and the federal threat abatement plan notes concerns that the dogs may take non-target wildlife "as it is not possible for hunters to continuously control their dogs during hunting forays".⁴⁴

Other damage occurs when some hunters fail to exercise care for their environment: if they dump rubbish, drive off-road, damage fences, leave carcasses or shoot native species. (One reason why hunters are seeking increased access to state lands is that disillusioned private landholders are increasingly denying access.) Deer hunters have been leaving several hundred tonnes of sambar deer remains in Victorian forests because they only want the trophy antlers. These remains bolster populations of feral predators, such as pigs, dogs and foxes, and increase their impacts on native species.

ably been moved to establish populations for hunting.

According to Jesser (2005), the sale of live deer for stocking new areas has become an important source of revenue for deer farmers.
 NSW government officer (personal communication).

³⁷ SA Department of Water Land and Biodiversity Conservation (2008).

³⁸ Australian Deer Association (2006).

³⁹ In a media release about their unsuccessful legal action, the Australian Deer Association (2008) stated: "The ADA Constitution obliges us to protect and better the status of deer and to ensure its perpetuity as

a free roaming game animal. We had to fight this listing to the very end as it will, in layman's terms at least, categorise deer as a pest"

⁴⁰ Norris et al. (2005).

⁴¹ Norris et al. (2005).

⁴² Orueta and Aranda (1998), citing Nugent (1988).

⁴³ Anonymous (2009).

⁴⁴ Commonwealth of Australia (2005).

⁴⁵ Peel et al. (2005).

In contrast to the claimed alignment with conservation, hunting groups have also strenuously opposed important conservation initiatives, including the creation of national parks, the listing of deer as threatening processes and the eradication or control of feral deer populations. Although some hunters strive to take good care of the environment, such anti-conservation attitudes suggest that others do not.

Conclusion

Feral animal control is being used as a justification by some state governments to open up public lands to recreational hunters. The NSW Primary Industries Minister Senator Ian MacDonald, for example, told parliament that "after habitat loss, invasive species are the single greatest threat to Australia's unique and treasured biodiversity," and that recreational hunting was a "sensible option" to "help to eradicate feral animals". 46

The Invasive Species Council agrees that feral animal control is very important, but concludes that there is no evidence to support the claims that recreational hunting is an effective or low cost option. "Outsourcing" control of feral animals to ineffective recreational hunters will see populations increase, particularly if governments use it as an excuse to not fund professional control efforts. There is also the very serious risk that governments are unwittingly creating incentives for maverick hunters to move feral animals into new areas and worsen feral animal problems.

References

- Anonymous. 2004. Feral deer in the south east and the Gum Lagoon pilot control project. Landholders, south east branch of the Australian Deer Association, Department of Environment and Heritage, Lacepede Tatiara Robe and Coorong Animal and Plant Control Boards, The Animal and Plant Control Commission / Rural Solutions SA.
- —. 2009. Comments flood into FarmOnline after wild dogs article. FarmOnline Stock & Land. 6 January 2009.http://sl.farmonline.com.au/news/nationalrural/ agribusiness-and-general/general/comments-floodinto-farmonline-after-wild-dogs-article/1400007.aspx
- Australian Deer Association. 2006. The deer hunting and wild deer management strategy. Australian Deer Association. http://www.austdeer.com.au/docs/Deer20%20Hunting%20&%20Management%20Strategy%2006.pdf.
- 2008. Flora and Fauna Guarantee does no such thing.
 Media release.28 April. http://www.austdeer.com.au/

- docs/FloraandFaunaGuaranteedoesnosuchthing.pdf
- Carter D. 2008. A Discussion of Recreational Hunting Policy for Australia. March 2009. http://www.globebuster.com/shoot/hunter1.htm
- 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.
- —. 2007a. Background document for the threat abatement plan for competition and land degradation by feral rabbits. Canberra: Department of Environment and Water Resources. www.environment.gov.au/bio-diversity/threatened/tap-drafts.html.
- 2007b. Background document for the threat abatement plan for predation by the European red fox.
 Canberra: Department of the Environment and Water Resources. www.environment.gov.au/biodiversity/threatened/tap-drafts.html.
- —. 2007c. Background document for the threat abatement plan for competition and land degradation by feral goats. Canberra: Department of the Environment and Water Resources. www.environment.gov.au/biodiversity/threatened/tap-drafts.html.
- —. 2007d. Background document for the threat abatement plan for predation by feral cats. Canberra: Department of the Environment and Water Resources. www.environment.gov.au/biodiversity/threatened/tap-drafts.html.
- 2007e. Threat abatement plan for predation by the European red fox. Canberra: Department of Environment and Water Resources.
- 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 NSW. 2006. Keep the Forests Safe: Response from Game Council NSW to questions about hunting on declared public land. http://www.thebegavalley.org.au/uploads/media/Response_From_Game_Council_150206_to_Keep_Forests_Safe.pdf.
- 2007. 2006/2007 annual report Orange: Game Council NSW. http://www.gamecouncil.nsw.gov.au/portal.asp?p=Reports.
- 2008. 2007/2008 annual report. Orange: Game Council NSW. http://www.gamecouncil.nsw.gov.au/ portal.asp?p=Reports.

Footnotes:

⁴⁶ 7 March 2006, see http://www.parliament.nsw.gov.au/Prod/Parlment/HansArt.nsf/V3Key/LC20060307016.



- Invasive Animals CRC. 2007. Rabbits. http://www.invasiveanimals.com/invasive-animals/rabbits/index.html
- Jesser P. 2005. Deer in Queensland. Pest status review. Brisbane: Department of Natural Resources and Mines. www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-Deer-PSA.pdf.
- Minister for Agriculture. 2006. \$2.5 million boost for game hunting management
- Media release.26 May. http://www.legislation.vic.gov.au/domino/Web_Notes/newmedia.nsf/bc348d5912436a9cca256cfc0082d800/f7502e3ae397bd78ca25717d000124e8!OpenDocument
- Moriarty A. 2004. The liberation, distribution, abundance and management of wild deer in Australia. Wildlife Research 31: 291-299.
- Norris A, Low T, Gordon I, Saunders G, Lapidge S, Lapidge K, Peacock T, Pech RP. 2005. Review of the management of feral animals and their impact on biodiversity in the rangelands. A resource to aid NRM planning. Canberra: Pest Animal Control CRC.
- Nowlan S. 2008. Rudi Pleschutschnig, feral animal trapper. Parkwatch: 22-23.
- NSW Auditor General. 2006. Game Council of New South Wales. http://www.audit.nsw.gov.au/publications/reports/financial/2006/vol2/pdf/25_1188_game_council_of_new_south_wales.pdf.
- NSW Department of Environment and Conservation. 2005. Deer management plan for Royal National park and reserves in Sydney South region. NSW DEC and the Royal National Park Deer Working Group, NSW. www.environment.nsw.gov.au/pestsweeds/RoyalDeerManagementPlan.htm.
- Orueta JF, Aranda Y. 1998. Methods to control and eradicate non native species. Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), Council of Europe Publishing.
- Pavlov PM. 1995. Family Suidae. Pig. Pages 715-717 in Strahan R, ed. The Mammals of Australia. Chatswood, NSW: Reed Books.
- Peacock D. 2008. Research Officer, Animal and Plant Control Group, Department of Water, Land and Biodiversity Conservation, South Australia. (personal communication).
- Peel B, Bilney RJ, Bilney RJ. 2005. Observations of the ecological impacts of Sambar (Cervus unicolor) in East Gippsland, Victoria, with reference to destruction of

- rainforest communities. Victorian Naturalist 22: 189-200.
- SA Department of Water Land and Biodiversity Conservation. 2008. Three men fined following illegal release of deer in the mid north. Media release.8 December.
- Sharp T, Saunders G. 2004. DEE001 Ground shooting of feral deer. Standard operating procedure.: NSW Department of Primary Industries and Department of Environment and Heritage. http://www.environment.gov.au/biodiversity/invasive/publications/humane-control.html.
- 2007a. Model code of practice for the humane control of foxes. NSW Department of Primary Industries. http://www.invasiveanimals.com/downloads/ COP_for_foxes.pdf.
- 2007b. Model code of practice for the humane control of feral goats. NSW Department of Primary Industries. http://www.invasiveanimals.com/ downloads/COP_for_feral_goats.pdf.
- 2007c. Model code of practice for the humane control of wild dogs. NSW Department of Primary Industries. www.invasiveanimals.com/downloads/ COP_for_wild_dogs.pdf
- Spencer PBS, Hampton JO. 2005. Illegal translocation and genetic structure of feral pigs in Western Australia. Journal of Wildlife Management 69: 377-384.
- Sporting Shooters Association Australia. 2009. Hunting in perspective: recreational hunting and its place within Australia.
- West P, Saunders G. 2007. Pest animal survey: 2004-2006. A review of the distribution, impacts and control of invasive animals throughout NSW and the ACT.: NSW Department of Primary Industries. http://www.invasiveanimals.com/publications/research-reports/index.html.