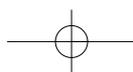
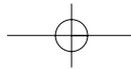


National Pest Animal Strategy -

Scoping Paper





National Pest Animal Strategy -

Scoping Paper

Introduction

This paper has been prepared at the request of the Australian Vertebrate Pests Committee (VPC), under the auspices of the Natural Resource Management Standing Committee. As a preliminary scoping document, it outlines the rationale and potential focus of a National Pest Animal Strategy.

The final strategy will be consistent with the new National Invasive Species Framework and other relevant strategies and reports, including the 2004 *Senate committee report on invasive species*.¹ It will play a similar role to the National Weed Strategy, adopted in 1997.²

This paper has not yet been discussed within pest management agencies or the broader community. Nor does it discuss, at this stage, a set of detailed objectives and outputs. Rather, it is designed as a starting point for such discussions, providing an outline of the current pest animal problems in Australia and highlighting opportunities for improving management of pest animals across the country. Comments on this document will provide direction for a national workshop to be held in March 2005.

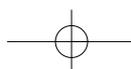
A draft strategy will be prepared before the next VPC meeting in May 2005. The VPC will circulate the draft strategy for public comment in the second half of 2005, before eventual signoff by Ministerial Council in 2006.

Purpose

The purpose of the National Pest Animal Strategy is to reduce the impacts of pest animals on Australia's productive capacity and natural ecosystems. This will be achieved through the coordination of national effort and the provision of a national framework.



Feral cat in tree.





Terms of reference

In 2003 the review of the role and functions of the VPC identified the development of a National Pest Animal Strategy as a key task for this group.

The following terms of reference were established by the VPC to guide the development of the strategy:

- Develop a national framework for managing the impacts of pest animal species in Australia.
- Ensure consistency and links with other national and state invasive species strategies.
- Clearly define the scope of the strategy in terms of the species and issues included and excluded.
- Identify clear roles and responsibilities for pest management.
- Ensure the strategy identifies prevention, detection, intervention, eradication and control processes.

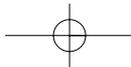
In relation to TOR 3, the VPC determined that:

- The strategy will cover all introduced vertebrate pests and problem native vertebrate species that cause negative economic, social or environmental impacts. It seeks to ensure prevention of new incursions, limit movement between infested and uninfested areas, and manage pests in infested areas.
- At this point, the strategy will not address exotic diseases, invertebrates, marine species, genetically modified organisms, or pest animals in New Zealand.



Wild dog with prey .





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Background

It is estimated that at least 73 species of vertebrate animals introduced into Australia have established wild populations on the mainland.³ This includes 25 mammal, 20 bird, 4 reptile, 1 amphibian and at least 23 freshwater fish species. An additional 7 introduced bird species are established on offshore islands.

Vertebrate pest animals have major economic, environmental and social impacts in Australia. A number of introduced animals, such as rabbits, foxes, feral pigs and feral cats, have become significant problems for agriculture and the environment. Pest animals cause significant damage to crops and seriously affect Australia's livestock industries by preying on stock and competing for pasture. Some also cause severe land degradation such as increased soil erosion and stream turbidity. In terms of Australia's natural environment, competition, habitat destruction and predation by pest animals may also threaten the survival of native plants and animals. Pest animals can also act as reservoirs for disease and disease spread that affect native wildlife, domestic stock and people. In addition, pest animals can cause the spread of weeds. The cost impact of vertebrate animal pests in Australia is discussed below.

Not all of Australia's pest animals are introduced. Native animals can become problems under a range of circumstances. Factors such as changing land use can result in overabundant populations of some species in a particular area. For example, in some rangeland areas, where there is increased

water availability and wild dog control, kangaroo populations have risen. In other situations, native animals have been translocated to new areas where they have effectively assumed the role of an exotic species. This has occurred in Western Australia with the translocation of rainbow lorikeets. Therefore, in the absence of natural predators and competitors, native animals may increase to densities that cause considerable short-term damage and, ultimately, a shift in the ecosystem to the detriment of farming enterprises and other native species.



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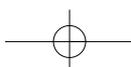




Table 1: Examples of pest animal impacts in Australia

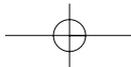
Species	Economic, environmental and social impact	Total cost impact (/yr)
European mouse <i>(Mus domesticus)</i>	Between 100,000 and 500,000 hectares of grain crops are subject to mouse infestation each year. The 1993 mouse plague in southern Australia resulted in costs in the order of \$65 million. Mice also spread disease, cause stress and soil food.	\$35.6 million
European rabbits <i>(Oryctolagus cuniculus)</i>	Rabbits compete with cattle and sheep for food and reduce cropping yields. They also compete with native wildlife for pasture, and in some cases, destroy native plants. Native fauna, such as the bilby, has been displaced following the spread of the rabbit.	\$113.1 million
European fox <i>(Vulpes vulpes)</i>	The sheep industry suffers economic loss through fox predation. The fox is also threatening the survival of many Australian mammals and birds. While the fox pelt export industry was worth around \$8 million in 1984, demand fluctuates widely and prices have fallen significantly over the last 20 years.	\$227.5 million

The traditional and popular attitude towards pest animals is that if they are present, they are causing significant damage and must be controlled. While it is true that a pest animal will usually have some impact, the questions to be considered in deciding whether or not to implement a management response are:

- What is the extent of this impact?
- Are there more significant impacts on the agricultural production or conservation values?
- Is it technically, economically or socially feasible or sensible to do anything?

Focusing on the causes and impacts rather than the pest animal *per se* is more likely to be an effective management response. For example, controlling populations of feral pigs, foxes or wild dogs may not achieve desired reductions in impact if a few 'rogue' individuals are responsible for most of the damage and the management program does not remove them. Moreover, pest control should be considered within the context of all land management activities. For example, the costs and benefits of pest management activities must be considered against all property management costs.





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The cost of vertebrate pests

The Cooperative Research Centre for Pest Animal Control has released Australia's first attempt to count the cost of 11 major introduced pests to Australia in terms of economic, environmental and social impact. The report, *Counting the Cost: Impact of Invasive Animals in Australia 2004*,⁴ examines the cost impacts of foxes, pigs, rabbits, mice, goats, carp, dogs, cane toads, camels, feral cats and wild horses. The report finds that the total annual cost of the 11 species included in the cost assessment is \$720 million per year. Of this total, foxes, rabbits, feral pigs and feral cats account for 83% of all costs, and agricultural productivity loss accounts for about half of the total costs estimated. However, feral cats and foxes also inflict large but unquantified and often unquantifiable environmental costs through

preying on native fauna. The economic impact of reduced agricultural production loss and control costs of these pests is estimated to be \$374 million per year. Major control costs include baiting, fencing, shooting and research associated with the improved management of the specific species. Production losses are estimated for sheep, cattle and cropping industries as a result of predation on stock, crop damage and competition for feed. Environmental and social impacts are more difficult to estimate. In the above study the total annual environmental cost impact is estimated at \$345.8 million. Social impacts of vertebrate pests on employment, health and indigenous peoples' ways of life are outlined, but only the costs of vehicle accidents associated with kangaroos are quantified.

Investment in pest animal management

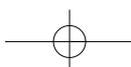
As indicated by the costs, the majority of expenditure for established management of animal pests is by individual landholders. The Australian government and the states and territories provide assistance for a range of pest animal management activities including border services, risk assessment, research, information, and awareness and planning.

The National Feral Animal Control Program has been established under the Australian Government's Natural Heritage Trust to develop and implement, in cooperation with state, territory and local governments, a program to reduce the damage to agriculture caused by pest animals. Regional groups are

also funded to undertake strategic animal management under the Natural Heritage Trust and National Action Plan.

The Pest Animal Control Cooperative Research Centre develops practical, cost-effective and socially acceptable products and strategies to reduce pest animal damage in Australia.

States, and local governments in some states, deliver a number of services to assist landholders in pest management. A recent Queensland study showed that every dollar spent on weed and pest animal management initiatives can deliver up to \$6.40 in benefit.





Opportunities to improve pest animal management in Australia

Over the past 50 years, much progress has been made in terms of understanding and controlling pest animal species and the circumstances that lead to their impacts. Rabbits were responsible for severe land degradation and loss of productivity during the plagues of the 1920-40's. The introduction of myxomatosis and rabbit haemorrhagic disease virus (known as rabbit calicivirus) and the ripping of warrens have seen dramatic decreases in rabbit populations in many areas.

Control of pest animals, such as cats, goats and rodents, on offshore islands and on mainland areas under intensive campaigns, has resulted in significant increases in populations of threatened small native marsupials, birds, reptiles and invertebrates. Also, although Australia has a number of established exotic animal pests, it has managed to prevent the introduction of many species, such as mongoose, Nile perch and primates, that are pests overseas. These species are kept as pets or used for food in other parts of the world and so they may be attractive imports. It is important to maintain protocols to keep species that pose a significant risk out of Australia and to ensure that systems are in place to respond to new pest species.

The National Pest Animal Strategy will build on previous successes in pest management, while recognising past failures and seeking to correct them. The 12 key components of a successful strategy are:

1. A broader scope of pest animal management

Historically, agricultural pest problems have received the greatest attention and funding for research, education, training and advisory activities. This focus of pest animal management needs to be broadened so that pests within non-agricultural areas are given appropriate attention. In particular, pest problems in the environment/conservation areas and in urban areas need addressing.

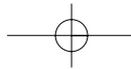
2. An enhanced awareness and understanding of the scope of Australia's pest animal problem

Although it is widely acknowledged that pest animals cause economic and environmental problems in Australia, there has been relatively little information on their overall impacts until recently. Further research into the triple bottom line impacts of pest animals and their cumulative effects will engender a greater community understanding of the magnitude and scope of Australia's pest animal problem. Targeted awareness and education campaigns on pest animal issues may be effective in raising awareness of the problem and of ways to prevent new problems.

3. Comprehensive knowledge of the ecology of pests

Strategic pest management should use an understanding of the pest species biology to develop medium to long-term goals, and hazard and critical point analyses. This requires better understanding of the species ecology, breeding patterns, seasonal variation and movement. The current tendency is to deal with one pest at a time;





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however, pests must be considered within an ecological context. There is currently a poor understanding of the flow-on ecological impacts – to biodiversity or water quality – from invasive animals or their control. For example, removing one pest may increase the impacts of another, harder-to-manage species.

4. Appropriate mechanisms for assessing national pest issues

It is appropriate that the VPC develop this strategy, as it is the peak, policy-setting group for pest animals in Australia. Without an overriding strategy or framework there has been limited scope for national planning, monitoring or assessment of significance of pests undertaken across Australia. The states have often developed their research and policy directions in isolation; however, the effectiveness of these programs may have been improved by cross-border cooperation and by links to coordinated programs. A national pest animal audit may assist in assessing national impacts of pest animals.

5. Effective and consistent institutional and legislative arrangements

Each state and territory has legislation relating to pest animal control but there is a need to improve the consistency between each regime. In particular, legislation needs to become better aligned to cover situations where, for example, a pest animal in one state can affect another state. All introduction and movement pathways for established and potential pests must be considered in legislation. Legislation needs to link border

assessment procedures and national programs with state activities.

6. Prevention of new pests and response to emerging pest species

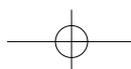
While laudable efforts have been made to strengthen border controls, vigilance is needed to ensure that new pest animals do not enter Australia, or that existing ones are not able to spread to new areas where they do not occur naturally. High-risk pathways need to be identified and targeted for management. Nationally coordinated action is required to rapidly detect, risk assess and respond to any newly emerging animal pest.

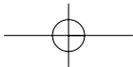
7. Undertaking eradication programs

Historically, activities have focused on the management and control of pest species rather than attempts to eradicate them. Experience here and in other countries (for example, programs on New Zealand's islands) has shown that eradication can be achieved although it requires perseverance and may be expensive in the medium term. With some states having pursued these programs already, there is significant opportunity to explore this approach.

8. Improved management methods

Although control options are available for many pest species, there is a need to continually improve and refine the techniques available, improving the efficacy and animal welfare aspects, as well as research to develop new techniques. There is also a concern that there are few effective control methods for others, for example birds, toads and fish. Land managers often do not adopt best practice (for example





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warren ripping) and in doing so cannot take advantage of other management activities. The decline in rural population has resulted in reduced capacity to deal with pest animals in regional areas. The community is concerned about some control methods, such as the off-target impacts of pesticides, and welfare considerations for some methods.

9. Outcome driven management

The effective management of pest animal species requires a strategic approach that focuses on the pests themselves and manages the actual, rather than the perceived impacts.



Indian palm squirrel

10. Effective monitoring and evaluation

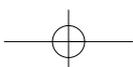
Control programs require monitoring, both before and after the program, to nationally accepted standards. These standards establish baselines of performance appropriate to all stakeholders and allow for setting targets for achievement. Assessing effectiveness of programs allows adaption and improvement as they progress, and measurement of cost-effectiveness of control actions.

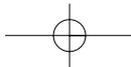
11. Processes for resolving conflicts of interest

Conflicts regarding pest animal management can arise due to differing attitudes and perceptions about pests. For example, an animal might be a pest or exotic disease hazard to one group but regarded as an animal of cultural value, food resource, commercial resource or a recreational hunting resource to another. Effective processes for resolving and dealing with these issues are required.

12. Community ownership of pest problems

Although most pest management is the responsibility of individual landholders, the problem is often too large for them to tackle alone. Pest management has both a public and private benefit. It is important that society is aware of the issues, understands the problems and is engaged in dealing with them. There is considerable scope for private companies to be involved in all aspects of pest management, but so far there are few players. Pest management should be linked to, and integrated with, local and regional natural resource and catchment management activities.





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The next stage

How will the strategy develop?

The development of the strategy begins here in the scoping phase by describing the planning process, the major areas of improvement and the critical stages for consultation. The next steps will rely on the inputs and engagement of all those with interests in the issue through their comments on this scoping document.

A national workshop will be held in Brisbane in March 2005. This meeting will bring together government agencies, pest animal managers, researchers and non-government organisations. The participants will expand on the issues identified in the first round of consultation. The writing group will then write a draft strategy. This document will be presented to the VPC at its May meeting. Following the meeting the draft document will be circulated for final comments. The final document will then be sent to the Standing Committees for sign off and adoption.

How to participate?

If you would like to contribute to the development of the national pest animal strategy, we want to hear from you.

You can respond by:

- Filling out the questionnaire at the end of this document and returning it to NR&M (see address below), attaching any further information or suggestions you wish to submit.
- Sending a submission by letter or email to the address on the next page.
- Indicating on the back of the questionnaire if you are interested in attending the national workshop in Brisbane on pest animals, to be held in March 2005.

Comments will be accepted until May 2005.

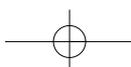
Acknowledgments

A small working group, Rebecca Enright, Craig Walton, Frank Keenan and Jim Thompson, has prepared the report. The VPC created a subcommittee to develop the strategy. It is made up of Simon Veitch, Department of Agriculture, Fisheries and

Forestry, Tony Robinson, CSIRO, Jonathon Miller, Department of Environment and Heritage, Barry Kay, NSW Department of Primary Industries, Glenn Edwards, Parks and Wildlife Commission NT, and Jim Thompson, Department of Natural Resources and Mines.

References:

- ¹ Environment, Communications, Information Technology and the Arts References Committee (2004) *Turning back the tide - the invasive species challenge*. Australian Senate, Canberra.
- ² Commonwealth of Australia (1997) *The National Weeds Strategy*. Agriculture and Resource Management Council of Australia and New Zealand, Australian and New Zealand Environment and Conservation Council and Forestry Ministers, Canberra.
- ³ http://www.affa.gov.au/Corporate_docs/publications/word/rural_science/decision_maker/sfdm_pests.doc
- ⁴ McLeod, R (2004) *Counting the Cost: Impact of Invasive Animals*. Cooperative Research Centre for Pest Animal Control, Canberra.





Pest animal strategy questionnaire

In terms of pest species and their impacts in Australia today, what are the main pest animal issues?

What pest animal issues do you think will become more important in the future and why?

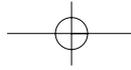
What actions do you believe are required to improve pest animal management in Australia?

Do you agree with the direction of the National Pest Animal Strategy as described above?

- If so, which of the areas identified in this document do you believe are the most important?*
- If not, please propose specific changes and additions.*

Scoping questionnaire





National Pest Animal Strategy -

Scoping questionnaire

What other questions should we be asking?

If this space isn't big enough, please attach additional comments to this document or email them to us.

I am interested in attending a national workshop in Brisbane on pest animals: YES NO

Your contact details

Name:

Address:

Organisation:

Email:

<p>Mail to: National Pest Animal Strategy C/o Frank Keenan Executive Officer Vertebrate Pests Committee Department of Natural Resources and Mines Level 7, Mineral House, 41 George Street Or: GPO Box 2454 Brisbane Queensland 4000</p> <p>Ph: 07 3405 5540 Fax: 07 3405 5551</p> <p>Email: Frank.Keenan@nrm.qld.gov.au Subject: National Pest Animal Strategy</p>
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