

**Western Australian Government Submission to the
House of Representatives Standing Committee on
Agriculture, Fisheries and Forestry inquiry into the
impact of pest animals on agriculture**

FOREWORD

Within Western Australia, minimisation of the impact of pest animals (and plants) upon agriculture and related resources is the statutory charter of the Agriculture Protection Board (APB), which came into being upon enactment of the *Agriculture Protection Board Act 1950*. The Board administers the *Agriculture and Related Resources Protection Act 1976*, in conjunction with the WA Department of Agriculture (DAWA). This Act provides the State's regulatory framework covering the introduction/prohibition, keeping, management, control and prevention of spread of certain pest animals (and plants).

The APB and DAWA also work in close cooperation with the Department of Conservation and Land Management (CALM), given its status as the single largest landholder / land manager within Western Australia. Together, the three agencies of the State Government of Western Australia are committed to mitigating the impact of pest animals on agriculture and conservation lands. This continues to be achieved through a combination of best practice management strategies, associated research and regulation. The development of effective, humane, safe, affordable and innovative management options for pest animals is an integral component of this approach.

The over-riding corporate aim of DAWA is to meet the needs of current and future generations through simultaneous environmental, social and economic improvement of Western Australia's Agriculture, Food and Fibre sector. As such, DAWA is committed to reducing the impact of pest animals on agriculture by investing in on the ground protection services, world class research achievements, and integrated policy and planning for the management of biosecurity risks. DAWA's expertise includes: pest animal biology and ecology, mapping pest animal abundance, exotic disease preparedness, toxins, non-target impacts, innovative approaches (e.g. fertility control), end-user involvement, client resource information systems, extension and a State-wide and national approach to pest animal management.

CALM has a statutory responsibility for the conservation and protection of the State's native flora and fauna. CALM is also a major land manager responsible for more than 23.5 million hectares of conservation reserves and other lands, as well as having responsibility for the management of pest animals on 89 million hectares of unallocated Crown land and unmanaged reserves. CALM engages in good neighbour relations with adjacent private landholders where pest animals on conservation lands are affecting primary production on neighbouring pastoral and agricultural lands. Pest animals impacting on agriculture are not limited to introduced species but also include a range of native animals, predominantly mammals and birds. CALM is responsible for developing and regulating management strategies for dealing with native pest animals affecting primary production (e.g. kangaroos and emus) while ensuring the continued conservation of those species.

DAWA, CALM and the APB wish to represent the Government of Western Australia at any hearing held by the Standing Committee.

The current submission focuses on *vertebrate* pest animal issues. DAWA also has significant expertise and knowledge of *invertebrate* pest animal issues (particularly insects). If the Standing Committee requires information on the impact of invertebrate pests on agriculture, the DAWA would be pleased to supply a second submission on request.

This submission complements the Western Australian Government submission on the Senate inquiry into invasive species, jointly prepared by the Departments of Agriculture, Conservation and Land Management, and Fisheries. A copy of this submission has been included as an appendix (Appendix 1).

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EXECUTIVE SUMMARY

The Department of Agriculture, Western Australia (DAWA) aims to meet the needs of current and future generations through simultaneous environmental, social and economic improvement of WA's Agriculture, Food and Fibre sector. This vision is extended to improving the productive capacity and profitability of WA's agri-industry, improving the ecological sustainability of WA's agri-industry, the safe and effective management of biosecurity risks, and minimizing the impact of pest animals on the State's biodiversity. The successful management of pest animals is fundamental to achieving these strategic outcomes.

DAWA has maintained a long-standing commitment to mitigating the impact of pest animals on agriculture through best practice management strategies and associated research and regulation. This commitment is supported by on the ground protection services, world-class research achievements, and integrated policy and planning for the management of biosecurity risks. This expertise includes: pest animal biology and ecology, mapping pest animal abundance, exotic disease preparedness, toxins, non-target impacts, innovative approaches (e.g. fertility control), end-user involvement, client resource information systems, extension and a State-wide and national approach to pest animal management.

The Department of Conservation and Land Management (CALM) is responsible for implementing programs to maximise biodiversity conservation and also has roles in developing and implementing programs to manage native species that have pest impacts and to control introduced pests on the conservation and other Crown lands it manages.

CALM is the major Government agency land manager. CALM has responsibility for the management of reserves, parks and forests vested in the Conservation Commission of Western Australia, and other lands (totalling 23.5 million hectares or nearly 10% of Western Australia at 30 June 2003), and for pest and weed control on unallocated Crown land and unmanaged reserves (89 million hectares or 35% of Western Australia). A (draft) Memorandum of Understanding between CALM and the Department for Planning and Infrastructure defines the functions, roles and responsibilities for management of unallocated Crown land and unmanaged reserves by CALM, and the administrative support provided by the Department for Planning and Infrastructure.

Other Government agencies such as the Department for Planning and Infrastructure, the Water and Rivers Commission, the Aboriginal Lands Trust, Main Roads Western Australia and the Western Australian Railways Commission also have responsibility for the control of pest animals on lands they own or manage.

CALM has developed a suite of management strategies, underpinned by associated research, to reduce the impact of pest animals on biodiversity. Many of these strategies are based on cutting edge technology and further work is underway to improve efficiencies and to reduce potential non-target risk from baiting control strategies.

There are many nationally significant pest animal issues that cause negative impacts to agriculture or pose significant threats to biosecurity and biodiversity. How these issues are defined and managed will vary depending on who has the ultimate responsibility for a given issue (e.g. landholder, communities, local government, State government or Commonwealth government).

Through national coordination and increased Commonwealth funding, the impacts of pest animals can be better managed. There is a need for a national body, such as the Vertebrate Pest Committee (VPC), to provide guidance at a national level. The role of the VPC should extend to developing national and uniform pest animal policies, standardisation of control

techniques and strategies, directing where research efforts should be heading, providing expert advice, and monitoring and reporting of pest animal impacts. This is not achievable without commitment of funds by the Commonwealth and in principle support of such a body by the States.

DAWA and CALM encourage the drafting and implementation of a national pest animal strategy. This should be developed along similar guidelines to the National Weed Strategy. This document could have clear planning pathways from national to state to local to property levels. The strategy could also fit within the Natural Resource Management structure and link with existing social and community networks. Again, Commonwealth funding would be required to initiate and maintain such an approach, with full support required from all stakeholders in the management of pest animals.

DAWA and CALM believe that this Inquiry will identify that there is a need for increased Commonwealth funding to enable a national approach to managing the impacts of pest animals. Development of a structure including the VPC, supported by a National Pest Animal Strategy, should provide the necessary framework to achieve humane, safe and innovative management options for pest animals while providing the necessary guidance and underpinning support for national policies and strategies, and research efforts. Such an approach should deliver improved on the ground control of pest animals on both private and public land, with the support of all stakeholders. It should also provide better early identification, control and eradication of new pest animal incursions.

TERMS OF REFERENCE

HOUSE OF REPRESENTATIVES TERM OF REFERENCE 1

To identify nationally significant pest animal issues and consider how existing Australian and State government processes can be better linked for more coordinated management of these issues across State boundaries.

There are many nationally significant pest animal issues. How these issues are defined will vary depending on who has the ultimate responsibility for a given issue (e.g. landholder, communities, local government, State government or Commonwealth government). Pest animal issues cover different property and administrative boundaries making ownership of the problem challenging. How they are viewed by the broader community and governments (pest or sustainable resource e.g. rangeland goats) will influence the way in which pest animal issues are considered and managed by the various interest groups.

A National Approach

National coordination to manage the impacts of pest animals is essential if management strategies are to be successful. A national approach to knowledge sharing should be encouraged across States and the Commonwealth. Where practical, this could include uniformity of pest animal policies and regulations, standardisation of control techniques and strategies, research efforts, and monitoring and reporting of pest animal impacts, distribution and abundance.

DAWA and CALM support the development of a national pest animal strategy along similar guidelines to the National Weed Strategy (see <http://www.weeds.org.au>). This document could have clear planning pathways from national to state to local to property levels. The strategy could also fit within the Natural Resource Management structure and link with existing social and community networks (e.g. Regional Natural Resource Management Groups).

Leadership on pest animal issues should have a national approach. The roles and responsibilities of the Vertebrate Pest Committee (VPC) could be increased under a clearly defined mandate. This needs to include adequate resourcing to operate effectively and source expert advice on a full cost-recovery basis. The VPC could also be a linkage for stakeholder group input so as to facilitate community involvement in the development of pest animal management policies. However, the VPC currently limits its activities to dealing with introduced vertebrate pest species and plays no role in the management or policy development for native pest species. This important limitation would need to be addressed in any future expansion of the VPC's role.

A national approach to the management of pest animals needs to be supported by clear legislation that, where appropriate, is consistent between jurisdictions (Commonwealth, State or local government). Legislation covering pest animal issues is complex, differs between portfolios within jurisdictions, and across different jurisdictions, and in the way it is applied to the different categories of landholders. The interpretation of some Commonwealth legislation dealing with the assessment of potential pests coming into Australia (Environment Protection and Biodiversity Conservation Amendment [Wildlife Protection Act] 2001) for example is currently inadequate. There is a need to ensure the independence of how importation risks are assessed for animals entering into Australia. However, the current system allows the applicant to assess the risks themselves, which is not appropriate. How legislation can be improved for better management of pest animal issues could be investigated.

Ecological scales and timeframes

Pest animals need to be viewed as an issue for the entire community. The impacts of pest animals generally occur on the landscape scale and are often ecologically driven. Pest animal issues operate in ecological timeframes that often do not fit conveniently within financial years, terms of government or even jurisdictional boundaries. Management of pest animal issues therefore needs to consider and plan for such contingencies. A holistic approach is therefore essential if management strategies are to be successful. To be effective, this must involve all landholders in a control area (private and Government) working in partnership.

Landholders also need to take responsibility for the management of pest animal issues on their lands and recognise the ecological scales and timeframes involved. Furthermore, the failure of landholders to take up advice based on sound scientific research can potentially have long-term consequences. For example, the introduction of rabbit haemorrhagic disease (RHD) was not a 'silver bullet' solution to the management of rabbits and complacency was warned against. Active management (e.g. ripping, habitat modification and poisoning) of currently low density populations to reduce the impact of rabbits in the long-term is recommended by DAWA.

Definition of pests

Both native and introduced animals can be pests. There are clear legislative and policy differences that apply when determining control strategies for either introduced or native animal pests, with the clearest difference being that native animal pests must be conserved while curtailing their damaging impacts.

Furthermore, native animal pests can fall into three categories;

- animals normally found at the location (e.g. some kangaroos),
- animals that have naturally expanded their range into a location (e.g. galahs),
- animals that have been introduced from elsewhere (eg. rainbow lorikeet and sulphur crested cockatoo in southern WA).

Lack of knowledge

Despite considerable research on pest animals by DAWA, CALM and other Australian and international agencies, there remain some rather large gaps in our knowledge. Key to planning and implementing successful control strategies is the ability to monitor populations, to quantify impact and undertake bioeconomic analyses of the problems associated with many vertebrate pests. Such analyses can be difficult, if not impossible, when the affected assets have a biodiversity values such as threatened species, as there is no agreed or clearly defined basis for valuation. Nevertheless, it would be desirable to move towards a situation where full economic impact, including a dollar value on biodiversity and environmental values, is clearly defined for all significant pest animals. This crucial information is generally lacking and the true costs of pest animals can only be guesstimated, which is less than ideal for informed decision making.

At a national level, little is known about the distribution and abundance of many pest animals at the scale of operational management. Broad, landscape knowledge is insufficient for most species (an exception being some species of kangaroo) DAWA and NSW Agriculture are leading the way in developing national standards for measuring and reporting distribution and abundance of other pest animals. Furthermore, little is known about the interaction of pest animal species with other pest animal species or domestic animals (i.e. contact rates). These are crucial knowledge-gaps that need to be overcome if the management of endemic diseases and exotic disease preparedness are to be successful.

Preventing the establishment of potential pest species is the cheapest and most effective form of pest animal management. However, there is a need to undertake reliable risk assessments of species with potential to become significant pests should they enter Australia. While DAWA is taking a lead at addressing this knowledge deficit, standardised risk assessment processes and protocols need to be established Australia-wide, and results and recommendations implemented nationally.

Without adequate resources to address such issues, these knowledge deficiencies will remain.

Resources

Pest animal initiatives are generally under-resourced. Resources generally get allocated to pest animal issues that have high community awareness and concern (e.g. wild dogs) when other pest animal initiatives may have more long-term cost benefits (e.g. managing sleeper pests).

There is scope for better targeting of animal pest control resources to greatly affected “key asset” areas, rather than trying to control pests with insufficient resources over their entire range. That is, decide ‘who’ to control and ‘when’. “Stop-start” control strategies that see a flush of control activity followed by a lack of activity, resulting in pest problems resurfacing also need to be avoided. Maintenance of major pest animal control at the borders of areas where pests have been eliminated is the best long-term investment approach.

The issue of ‘user pays’ versus ‘public good’ is central to how resources will be allocated to the management of pest animals in the future. This issue requires clarification and commitment from stakeholders, the broader community and all levels of government. Until issues of long-term resourcing commitments are made clear and ongoing control funds are increased, there remains the real problem that ground control of pest animals on both private and public lands will continue to be less than is required. Ongoing access to Commonwealth funds is crucial if the States and the wider community are to meet their obligations.

There is a real need to increase funding for research into impact and risk assessment, animal welfare issues associated with pest animal control, and bioeconomic analysis of pest animal impacts. While increased research funding can potentially be channelled into Cooperative Research Centres (CRCs), research outputs need to be clearly defined and driven simultaneously by end-users, land-managers and researchers alike. Programs such as the Bureau of Rural Science (BRS) National Feral Animal Control Program (NFACP), funded through the Natural Heritage Trust (NHT), have been very successful in delivering funds to research projects with practical and useful outcomes for the rural sector, and we encourage their continued funding. It would be appropriate that these Commonwealth funding sources be independent and operate simultaneously to allow access to all researchers, regardless of their affiliations (e.g. not become restricted just to partner members of CRCs).

When new animal industries (e.g. deer farming) are developed, particularly with the assistance of Government funds, there is a real need to have clear understanding of the potential risk that newly farmed species could itself become a pest species. New industries are seldom seen to provide any guarantees that new ventures will not generate new pest species. Planning needs to extend to contingency planning and exit strategies for non-commercially viable enterprises.

HOUSE OF REPRESENTATIVES TERM OF REFERENCE 2

The common theme of this term of reference is the need to have a plan that can be implemented for prevention, detection, control, reduction and eradication of pest animals. DAWA and CALM encourages the creation of a National Pest Animal Strategy, complete with operational manuals and strategies to deal with these pest animal management elements. We encourage that funding to develop such a strategy be provided by the Commonwealth.

To consider the approaches to pest animal issues across all relevant jurisdictions, including:

- ***prevention of new pest animals becoming established;***

The fundamental principle that prevention is the most cost-effective form of pest animal control needs to be followed. To achieve this, there needs to be a comprehensive, nationally accepted and implemented risk assessment process in place to identify animals with pest potential. Processes then need to be implemented so that these animals are actively excluded from Australia (and/or states or regions, e.g. cane toads). At present, current border security procedures and priorities mean that pest animals generally have lower priority than other issues such as disease, people movements and imported goods. This is likely to continue until AQIS is adequately resourced and has the ability to maintain a more flexible approach.

Pre-emptive strategies and plans need to be in place to combat possible pest animal incursions. These plans could be constructed along the same lines as the AUSVETPLAN (see <http://www.aahc.com.au/ausvetplan/index.htm>). Plans will need to incorporate national, state and local area components. Plans should be endorsed by all levels of government and resourcing arrangements understood with in principle agreements in place (e.g. foxes in Tasmania). Plans should be in place for both introduced and native pest animals and be based upon a robust, standardised risk assessment process.

- ***detection and reporting systems for new and established pest animals;***

Of concern to DAWA is the lack of a national reporting system for new and established pest animals. At present, reporting is *ad hoc* with limited coordination through the VPC. This is

inadequate and needs to be addressed. Development of strategies and plans for pest animal incursions with clearly identified processes for dissemination of information could address this issue. At a state level, DAWA has successfully used incident response strategies in a successful eradication of an incursion of the exotic tree sparrow in Port Hedland.

Implementation of the National Surveillance, Quarantine, Control and Recovery System (SQCR) will be a very useful tool as a coordinated pest animal information system. Instigated by the National Information Manager's Technical Group (NIMTG) under the Primary Industries Health Committee, SQCR offers standardisation of data collection and should encompass a pest animal component. DAWA is committed to such an approach.

There needs to be greater community and non-government organisation (NGO) involvement in the detection and reporting of pest animals. The role of government needs to change from primary service provider for detection, to facilitator and information manager. DAWA has taken an active role in engaging community support for pest animal issues through the production of information such as "Common Seasonal Pests" (Appendix 2).

Development of plans, reporting systems and information systems facilitating community involvement all require ongoing commitment and resources.

An important distinction needs to be made between introduced and native pests. Control of native animals that have pest potential does not generally take place on conservation lands. Rather control is usually undertaken on adjacent agricultural lands. There are already some strategies in place to deal with this in WA. For example red and western grey kangaroos are managed under Commonwealth approved management plans and operate by way of legislative instruments such as Open Season Notices and Damage Licences. These systems have functioned well for more than 30 years, while at the same time protecting biodiversity values and sustaining a commercial industry based on those two species.

- ***eradication of infestations (particularly newly established species or 'sleeper' populations of species which are considered to be high risk) where feasible and appropriate; and***

There are limited opportunities to eradicate any introduced pest animal population and no desire to eradicate native pest populations. Pest animal populations tend to grow exponentially. Only in the early stages of population growth is eradication feasible (except in limited circumstances such as islands). Even then, commitment, resources and political will need to be unified. A similar commitment is necessary for 'sleeper' populations (e.g. feral deer, exotic sheep, rainbow lorikeets and eastern long-billed corellas in WA). DAWA has been successful in eradicating a small infestation of tree sparrow by using an incident response process. By declaring the newly-detected population as an incident, resources, personnel and agency support were unified under an incident response plan. Similar responses have been applied to isolated outbreaks of pest species where total eradication of the major wild pest population is not currently feasible.

The key to eradicating local infestations of pest animals is to ensure that the expertise, resources and information required are readily obtainable. Coupled with this is the need for good decision making tools and the capacity to strike quickly. There is a real need to draft and implement plans, and have in place memoranda of understanding and funding arrangements prior to eradication operations. In particular, there needs to be support from the community and stakeholders. DAWA encourages the development of a Commonwealth funded national pest animal strategy that has an eradication protocol. However, such a strategy must encompass State concerns and priorities. We suggest that the model of the AUSVETPLAN is a good example to follow.

Hindering the possibility of eradicating a population is the lack of recognition of potential

problems in the first instance. This can include a failure by the public to identify pest species and to differentiate between native and introduced pests. The ability to respond rapidly is vital. Delays while the merits of control proposals are investigated can prevent eradication and so standard response frameworks have to be in place and be ready to be applied. Also, there must be complete commitment to eradication if it is to be achieved. Cost-benefit analysis will quickly dictate whether eradication is feasible or if routine and ongoing control is more cost-effective. Resourcing may determine the strategy, even if it is only a short-term solution.

- ***reduction of the impact of established pest animal populations.***

Unfortunately, there is no single answer to reducing the impact of pest animal populations. Previous approaches have been to manage the numbers of pest animals and not the impacts of the pests, but this is now changing. Recent research by the Murdoch University and DAWA also suggests that management of pest animals should be at a pest animal population level rather than an artificial boundary (e.g. Shire boundary) but more research is required to develop these concepts.

CALM has adopted a modification of this approach to fox and cat control in its *Western Shield* program. Eradication of both species is not possible at present (if ever), and total eradication may not be necessary to achieve a recovery of native fauna populations, which is the key goal of the management programs. After bait purchase and delivery costs, most of the remaining resources are directed towards recording the response of the native fauna after pest control operations.

It is a slow process to develop, test and refine new techniques to reduce the impact of established pest populations. There needs for the recognition of the time and resources to undertake research and a commitment to long-term research projects. Development of new techniques and possible redefining of existing techniques maybe required to ensure advancing standards of animal welfare continue to be met.

Animal pests are a serious problem for conservation and CALM expends significant funds to protect conservation assets and neighbouring agricultural activities. Control programs on conservation lands also need to take into account the impact on the conservation purpose of the land from the pest. Funding research through national research bodies such as a CRC or NFACP has the added benefit of allowing stakeholders to lobby for research focus areas and initiatives. DAWA and CALM have been involved in the Vertebrate Pest Biocontrol CRC and the Pest Animal Control CRC to develop innovative and humane ways of reducing the impact of foxes, rabbits and house mice on agriculture and the environment. More funds are required to further research aimed at reducing the impact of established pest animal populations, and both CRCs and the NFACP are ideally placed to manage and facilitate research efforts.

Animal welfare is a major issue of concern to both DAWA and CALM. Both agencies have some members of staff gazetted as general inspectors (animal welfare) under the *Animal Welfare Act 2002*. Animal welfare needs to be an important component of any national pest animal strategy, particularly with respect to ongoing operations that reduce the impact of pest animals. We encourage the Commonwealth to allocate research funds for animal welfare issues and pest animal management. However, pest control options need to be 'realistic' and maintain a balanced view of the often complex issues of animal welfare and the destruction of animals. Pest control options need to be humane, effective, safe, affordable, practical, but they have to remain available.

HOUSE OF REPRESENTATIVES TERM OF REFERENCE 3

Consider the adequacy of State Government expenditure on pest animal control in the context of other conservation and natural resource management priorities, with particular reference to National Parks.

It is noteworthy that none of the introduced animal pests that affect agriculture or conservation have been introduced for conservation reasons. They have all been either escapes or releases from previous farming, transport, hunting uses or breaches of barrier controls.

Introduced pests inhabiting conservation lands impose costs to conservation. These costs may not, however, have the same significance as costs that would be imposed to agricultural production. The net impacts may be higher or lower than they would be on agricultural lands. As a general rule, where the conservation impacts of introduced animal pests are low and there are more significant conservation issues to be addressed in managing the conservation land, it makes sense in resource allocation terms to have a lesser level of control on conservation lands or to target control strategies to conservation land (park) and agricultural interface areas. In other circumstances, particularly where regional eradication is an objective, it is appropriate to target control across the entire conservation land.

In some circumstances successful control of pests to biodiversity conservation requires successful control on both agricultural and conservation lands. Where either land manager fails to adequately maintain control, re-invasion can occur. Specific examples of this in Western Australia include feral goat control campaigns that have been successful in the short term in reserves such as Kalbarri National Park, but have been compromised in the long term because of reinvasion from neighbouring lands.

Just as there are agricultural pests that do not have major impacts on conservation (e.g. dingoes), there are conservation pests that do not necessarily have major impacts on agriculture (e.g. feral bees, cane toads). Control of such pests on conservation lands, where it can be implemented, can require a sympathetic level of control on neighbouring agricultural lands.

CALM is currently preparing a 'good neighbour' policy in consultation with rural stakeholders that addresses a wide range of issues of importance to neighbours of conservation lands in the agricultural and pastoral zones. Control of pest animals is one of the issues being addressed in the policy. CALM has traditionally undertaken control of most pest animals on CALM-managed lands for the protection of environmental values and on a good neighbour basis and this is to be enhanced and formalized under the new policy. CALM has contributed directly and in-kind to control programs, usually negotiated directly with local neighbours or through Declared Species Groups with the assistance of DAWA. This process has worked well and will continue to operate on a needs basis. This model provides a very good mechanism to identify requirements for CALM (as the Government land manager), and neighbours to implement and conduct specific pest animal control operations.

CALM views feral animal and weed control as a partnership, and works wherever possible with the community, and especially neighbours to CALM-managed land, to share the control burden and to optimise the benefits from control works that are undertaken.

Recently reviews have been undertaken into pest animal control in WA (wild dogs, starlings, donkeys and 1080) through the auspices of the Agriculture Protection Board and the DAWA. The outcome from this review is yet to be finalised, but indications are that regional and local control groups involving all landholder stakeholders at the local and regional levels will be enhanced for future pest animal control management. This review has indicated that there

are requirements for additional resource allocations from both private landholders and Government landholders to successfully implement an acceptably effective pest animal control program in WA. Means of obtaining the required resources are currently under consideration.

Western Shield is a very successful program that is run by CALM and aims to control feral pest predators (particularly foxes) as a threatening process, with the aim of recovering native wildlife populations. In 2002/2003, CALM expended \$2,252,000 on the Western Shield program. While foxes are a significant threat to biodiversity, they are also agricultural pests. Fox baiting under the Western Shield program is undertaken over approximately 3.5 million hectares of primarily public conservation and forest lands, at least four times per year. The Western Shield program is also targeting feral cats using funding primarily from external sources. CALM initiated a comprehensive review of the Western Shield program, including input from a three member independent expert panel. The Review Panel has reported on all aspects of the management, implementation and outcomes of the Western Shield program, and made recommendations for future directions and improvements.

Feral goats have also been an issue on CALM managed lands in the arid and semi-arid shrublands for many years.

CALM and other Government agencies are working towards a more strategic and cooperative approach to the management of feral pigs on conservation and private lands, with a particular focus on the south-west. However illegal hunting, transport and release of pigs by recreational shooters hinder the effectiveness of feral pig control efforts.

CALM's focus for feral animal control is to minimise the impact of feral animals on biodiversity conservation values. The Department expended \$363,000 (in addition to Western Shield) in 2002/2003, with similar expenditure anticipated in 2003/04 on control of rabbits, feral goats and pigs. A further \$287,000 was allocated in 2003/04 for wild dog control on unallocated Crown land and unmanaged reserves, through an integrated program of both aerial baiting and ground dogger control. Funds have been allocated to (i) a twice-yearly aerial baiting program, which include pastoral lands and CALM managed lands in the southern rangelands, and central and southern agricultural lands, with some aerial baiting in the northern rangelands, (ii) the employment of two full time doggers, one being a CALM contractor working in the central agricultural region and the second being a Department of Agriculture employee working in the southern rangelands, and (iii) the employment of doggers managed by declared species groups in the southern agricultural region.

HOUSE OF REPRESENTATIVES TERM OF REFERENCE 4

Consider the scope for industry groups and R&D Corporations to improve their response to landholder concerns about pest animals.

Landholder representatives advise directly on issues and local priorities concerning pest animal management via the Statewide network of (statutory) Zone Council Authorities which report directly to the APB. The engagement of all landholders within a given area remains problematic, as gaps in coverage can and do seriously compromise the effectiveness of control efforts. Enforcement strategies are currently being reviewed by APB/DAWA. DAWA also actively interacts with landholders on issues of pest animals by financially assisting with declared species groups and managing levies for declared plant and animal control fund on behalf of pastoralists and the APB. This process is effective but there is a common need for more Commonwealth resources for ongoing ground control, since all pest animal issues can not be adequately addressed.

There is a need for the landholder to understand the need to take ownership of the pest animal problem and respond to it or its consequences. To assist landholders, DAWA provides advice and support on best practice pest management. A small proportion of landholders also contact CALM requesting advice and or assistance for control of introduced pests.

All costs associated with the management of pest animal issues need to be targeted and well coordinated. Landholder groups, supported by DAWA initiatives (e.g. declared species groups) generally do this well and should be encouraged with guidance and, where possible, additional resources from community based initiatives (e.g. NHT funded Local Conservation District Committees or specialist groups such as the Malleefowl Preservation Group).

Industry groups and R&D Corporations, where appropriate, need to involve landholders and landholder groups more in the development of policies and the way resources are allocated. Transparency and accountability of funding allocations will ensure landholders feel these bodies are spending their funds wisely and in accordance with industry and government priorities. This is particularly important when the bodies are supported by producer levies.

Industry groups and R&D Corporations need to become more involved in supporting research to underpin government policy making. Membership of committees such as VPC is one way to achieve this.

Industry groups and R&D Corporations that contribute financially to research bodies such as CRCs could provide guidance on what research is required by landholders. Guidance should not be restrictive and should reflect realistic and achievable research goals. Coupled with this is the need to be completely open with research funds, where the funds have been allocated and what they are to be used for.

There is a real need for Industry groups and R&D Corporations to have a holistic approach to pest animal management. For example, European starlings affect many agricultural activities (e.g. horticulture, grain and livestock industries) but do not necessarily affect any *one* industry significantly. Industry groups and R&D Corporations generally have a narrow focus (e.g. single industry) and are therefore reluctant to allocate resources to the problem if it is affecting their industry but only in a minor way. United, the Industry groups and R&D Corporations would appreciate the total impact of particular pests and perhaps initiate appropriate responses. This is a common problem that needs better coordination between all stakeholders including the general public, community interest groups and land managers.

HOUSE OF REPRESENTATIVES TERM OF REFERENCE 5

Consider ways to promote community understanding of and involvement in pest animals and their management.

DAWA and CALM are committed to the use and ongoing development of best practice methods to manage the impact of animal pests. As part of this approach, both DAWA and CALM have very effective communication strategies to promote and engage the community on pest animal issues. These strategies include providing web-based resources (DAWA: www.agric.wa.gov.au; CALM: www.naturebase.net), information notes (e.g. DAWA Farmnotes, see Appendix 3a for complete pest animal list) and articles in CALM's magazine *Landscape* (see Appendix 3b). Each department also promotes activities, events and research findings through media releases, participation in field days and shows, and demonstrations of best practice pest animal management. Both departments have world class research centres (Agriculture focus: DAWA's Vertebrate Pest Research Section; Conservation focus: CALM's Science Division) that undertake fundamental and critical

research on pest animals. Both research centres extend their research findings and assist with the development of policies to benefit the broader community and engage the national and international scientific community.

In addition to the above, DAWA provides funding (dollar for dollar) for Declared Species Groups. These initiatives enable community groups to take ownership of their pest animal problems, and need to be encouraged by minimising bureaucracy and providing the necessary technical guidance.

As with the other terms of reference, there are funding and research implications associated with pest animal management and community involvement. There is a real need to define pest animal populations and how they should be managed. For example, a community declared species group may put a lot of time, effort and money into controlling a pest animal. This will be of limited value if the population is reinvading from a surrounding area that is not controlled (i.e. sources and sinks). There is also a need to determine what the broader community hopes to achieve with pest animal management. Is it impact reduction or eradication of the pest animal?

Generally, pest animal management is reactive rather than proactive. For example, pre-lambing baiting for foxes is a proactive strategy, yet the fox problem may not become apparent until lambs have been attacked. While pest animal management should be proactive, the lack of resources generally conspires against this. Examples such as DAWAs pro-active long-term commitment to keeping European starlings out of Western Australia are rare but should be encouraged and appropriately resourced. With appropriate bioeconomic analysis, it will become quite clear that such proactive strategies are cost-effective.

Pest animal issues fluctuate with time. Perceptions, profiles and interest in pest animal issues also fluctuate. It is important that landholders and governments alike always link short-term control and management of pest animals with the long-term big picture, and manage the risks associated with pest animals and not the outrage caused by pest animals.

RECOMMENDATIONS

Pest animals represent a major threat to agriculture, both in terms of loss of agriculture production and revenue, as a biosecurity risk and as a threat to biodiversity. Pest animals threaten the Strategic Plan of DAWA to meet the needs of current and future generations through simultaneous environmental, social and economic improvement of Western Australia's Agriculture, Food and Fibre sector. DAWA and CALM make substantial contributions (time, effort, knowledge and financial) to reducing the impact of pest animals. For the future mitigation of the impact of pest animals, DAWA and CALM recommend:

- National coordination to manage the impacts of pest animals with leadership through a well funded Vertebrate Pest Committee.
- Development of a National Pest Animal Strategy that can be implemented for the prevention, detection, control, reduction and eradication of pest animals. This strategy should have key components that:
 - Have protocols and resource agreements to deal with the incursion of new pests.
 - Have clearly defined strategies and operating manuals to deal with pest animal management.
 - Define clear planning pathways from national to state to local to property levels. Planning should include social networks and industry groups.
 - Fit within the Natural Resource Management (NRM) structure and link with

- existing social and community networks.
 - Be the referencing standard for risk assessments, information management and other key knowledge based tools.
 - Ensure a national approach to coordinating knowledge sharing across states including policy, control techniques, management strategies and research programs and objectives.
- Continued Commonwealth funding for successful programs such as the National Feral Animal Control Program and other Natural Heritage Trust programs. These programs deliver practical outcomes for the direct benefit of the landholder (including conservation lands). Funding needs to extend to on the ground control of pest animals on both private and public lands.
 - The continued (and increased) Commonwealth funding for research on pest animals. Research will enable the development of effective, humane, safe and innovative management options for pest animals while providing the necessary guidance and underpinning support for national policies and strategies.
 - An independent investigation of legislation pertaining to the management of pest animal issues. The aim of such an investigation could be to facilitate uniform best practice management of pest animals across all forms of land tenure and identify areas in need of reform.

APPENDIX 1. State Government of Western Australia submission to the Australian Senate Inquiry on invasive species.

APPENDIX 2. Department of Agriculture publication “Common Seasonal Pests. Your guide to prevent the spread of animal and plant pests, disease and weeds. Department of Agriculture, Bulletin No 4587, March 2004.”

<http://agspsrv34.agric.wa.gov.au/agency/pdis/bulletin4587.pdf>

APPENDIX 3A. List of pest animal 'Farmnotes', 'Infonotes' and 'Miscellaneous Publications' produced by the Department of Agriculture. These publications are produced for customers of the Department of Agriculture.

- [1080 - Characteristics and use](#) (Farmnote 28/2002)
- [1080 Summary information](#) (Miscellaneous publication 11/2002)
- [African clawed frog](#) (Infonote)
- Agile Wallaby (Infonote 8/94)
- [Are foxes killing your lambs?](#) (Farmnote 62/2001)
- [Bait stations and rabbit control](#) (Farmnote 38/2003)
- [Blackbird](#) (Farmnote 60/2001)
- [Bobwhite quail](#) (Infonote)
- [Bounties and wild dog control](#) (Farmnote 36/2002)
- [Bullfinch](#) (Infonote)
- [California quail](#) (Infonote)
- [Cane toad](#) (Farmnote 42/2002)
- [Common myna](#) (Farmnote 61/2001)
- [Conventional Rabbit Control: Costs and Tips](#) (NHT Publication)
- [Destroying rabbit warrens using explosives](#) (Farmnote 27/2002)
- [Dingo](#) (Farmnote 133/2000)
- [European rabbit](#) (Farmnote 39/2003)
- [Evaluation of the effectiveness and efficiency of the wild dog control program in Western Australia](#) (APB Review Document)
- [Feral camel](#) (Farmnote 122/2000)
- [Feral donkey](#) (Farmnote 121/2000)
- [Feral goat](#) (Farmnote 83/2000)
- [Feral pig](#) (Farmnote 110/2000)
- [Fox baiting](#) (Farmnote 90/2001)
- [Fumigation for rabbit control](#) (Farmnote 119/2000)
- [Guide to the safe use of 1080 poison](#) (Farmnote 63/2001)
- [Guide to the safe use of strychnine for jawed traps](#) (81/2001)
- [Guide to the safe use of strychnine poison for emu control](#) (Farmnote 34/2003)
- [House crow](#) (Infonote 00694)

- [House finch](#) (Infonote)
- [Indian Palm squirrel](#) (Farmnote 113/2000)
- [Importing and keeping introduced mammals, birds, reptiles and amphibians in Western Australia](#)
- [Keeping deer](#) (Farmnote 44/2001)
- [Keeping feral goats in agricultural areas](#) (Farmnote 11/2001)
- [Landholder use of 1080 One shot oat rabbit bait](#) (Farmnote 88/2001)
- [Making the Most of Rabbit Haemorrhagic Disease](#) (NHT Publication)
- [Mice on farms](#) (Farmnote 44/2003)
- [Options for fox control](#) (Farmnote 91/2001)
- [Options for rabbit control](#) (Farmnote 89/2001)
- [Parrots and cockatoos in orchards](#) (Farmnote 125/2000)
- [Pestplan Guide - A guide to setting priorities and developing a management plan for pest animals](#) (NHT Publication)
- [Pest plan Toolkit](#) (NHT Publication)
- [Rabbit Haemorrhagic Disease - how can you help RHD reduce the impacts of rabbits](#) (NHT Publication)
- [Rabbit warren and harbourage destruction](#) (Farmnote 111/2000)
- [Rainbow lorikeet](#) (Farmnote 08/2002)
- [Rat and mouse control in and around buildings](#) (Farmnote 114/2000)
- [Recognising wild dog and dingo predation](#) Farmnote 124/2000)
- [Red fox](#) (Farmnote 115/2000)
- [Red-billed quelea](#) (Infonote)
- [Red-vented bulbul](#) (Infonote)
- [Red-whiskered bulbul](#) (Infonote)
- [Song thrush](#) (Infonote)
- [Sparrows](#) (Farmnote 117/1999)
- [Sulphur-crested cockatoo](#) (Farmnote 86/2001)
- [The Starling](#) (Farmnote 128/2000)
- [Use of fencing to protect crops and pasture from rabbits in bush remnants](#) (Farmnote 82/2002)
- [Wild dog control](#) (Farmnote 29/2002)
- [Wild Dog Control: Facts Behind The Strategies](#) (Misc pub 23/03)

Appendix 3B. List of articles on pest animal control published in CALM's *Landscape* publication produced CALM as part of its education and communication strategy.

Algar, D. and Smith, R. (1998). Approaching Eden. *Landscape* 13(3); 28-34.

Algar, D. and Burbidge, A.A. (2000). Isle of cats: the scourging of Hermite Island. *Landscape* 15(3); 18-22.

Bailey, C. (1996). Western Shield - bringing wildlife back from the brink of extinction. *Landscape* 11(4); 41-48.

Burbidge, A.A. (1997). Montebello Renewal. *Landscape* 12(2), 47-52.

Burbidge, A., Langford, D. and Fuller, P. (1999). Moving mala. *Landscape* 14(3), 17-21.

De Tores, P., Rosier, S. and Paine, G. (1998). Conserving the Western Ringtail Possum. *Landscape* 13(4); 28-35.

Friend, A., Anthony, C. and Thomas, N. (2001). Return to Dryandra. *Landscape* 16(4); 10-16.

Friend, A. and Thomas, N. (2001). Numbats Forever. *Landscape* 17(1); 17-22.

Hopper, S. (1991). Poison Peas: Deadly Protectors. *Landscape* 6(4); 44-50.

Kinnear, J. and King, D. (1991). 1080: The toxic paradox. *Landscape* 6(4); 14-19.

Morris, K., Armstrong, R., Orell, P. and Vance, M. (1998). Bouncing Back. *Landscape* 14(1); 28-35.

Start, A., Burbidge, A, Sinclair, E. and Wayne, A. (1995). Lost and Found: Gilbert's Potoroo. *Landscape* 10(3); 28-33.

Start, A., Courtney, J. and Morris, K. (1996). It's Back: Return of the Woylie. *Landscape* 11(3); 10-15.

Thompson, C. and Shepherd, R. (1995). Return to Eden. *Landscape* 10 (3): 22-27.