

**House of Representatives
Standing Committee on Agriculture, Fisheries and Forestry
Inquiry into the Impact on Agriculture of Pest Animals**

**NSW Farmers' Association
Level 10, 255 Elizabeth Street
Sydney NSW 2000**

Ph: (02) 8251 1700

Fax: (02) 8251 1750

Email: wool&livestock@nswfarmers.org.au

NSW Farmers' Association Background

The NSW Farmers' Association (the Association) is Australia's largest State farmer organisation representing the interests of over 13,000 farmers – ranging from broad acre, meat, wool and grain producers, to more specialised producers in the horticulture, egg, pork, oyster and goat industries.

Executive Summary

Pest animals cause serious economic loss and social disruption to individual farmers and their communities, and it is essential that effective and efficient control methods are implemented to mitigate such loss.

Governments and similar public agencies have a clear role in pest animal control because of the “market failure” outcome that would arise if the control of such pests were the sole responsibility of farmers. Such agencies also have a more direct responsibility because they manage land on which pest animals can seek harbour.

The control of pests requires at times the management of conflicting outcomes that includes the possible harm to non-target species. These conflicts, however, should not be considered from too narrow a perspective. Preference needs to be given to an approach that achieves the best overall outcome after taking into account the effectiveness and timeliness of the operation as well as any unintended affect.

Most in the community would accept the pest animal status of species such as wild dogs and feral pigs. Many, however, would be more sceptical of applying a “pest” status to protected or vulnerable species such as Grey-headed Flying-foxes and Wedge-tail eagles. Yet it should be remembered that even these protected species cause considerable economic loss to individual farmers through predation of fruit and livestock. Affected farmers have a right to expect that affordable management options are available to them in order to protect their ability to continue farming under reasonable conditions.

The management options available to farmers are not always practical and timely, and in order to overcome such shortcomings suitable research must be conducted to uncover improved options. Such research will rely on accurate data on field populations and the effect of management on these populations.

Farmers are at the “coal-face” of pest animal control but often their experiences are rejected as not being relevant to the considerations of an improved pest animal management system. This attitude must be avoided if a sustainable, collaborative approach to pest animal management is to be obtained. The experiences of many farmers in dealing with pest animals are in the Attachment section of this submission and should be considered as having equal weighting to the comments in the main part of the submission.

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Introduction

Pest animals have a serious effect on farmers in NSW with the cost estimated in the many millions of dollars per year. The costs include not only the direct costs for control, but also production losses due to predation and natural resource degradation as well as the psychological impact on families as a result of the anguish in dealing with pest animals.

This anguish is not restricted to on-farm control but includes the constant requirement of dealing with bureaucracies involved in pest animal management. These bureaucracies include agencies responsible for managing public lands adjacent to farms, and also agencies that regulate the means of controlling pest animals.

This inquiry provides the opportunity for all sectors involved in pest animal management to recognise the impact they have on control, and to then act in a coordinated way to limit the effects of pest animals. Such an outcome will have direct benefits to regional and broader economies and also improve the condition of our natural resources as well as developing the human capacity of those involved.

The NSW Farmers' Association believes that the Inquiry needs to consider not only the listed "feral" animals in its definition of pest animals but any animals that have a negative impact on farm production. Under this broader definition, pest animals will then include protected or threatened species. In particular, the Association would like the Inquiry to consider Grey-Headed Flying-Foxes and Wedge-tail eagles in its deliberations in addition to the more recognised pest animals such as wild dogs, feral pigs, foxes and rabbits.

Although it is recognised that the control of protected and threatened species will raise emotive issues among the general community, the fact is that some of these species are causing severe losses to farmers who have limited means of controlling such losses or of being compensated for the damage incurred. It is essential that this dilemma is addressed by the Inquiry.

The effective coordination of all landholders, private and government, in the control of pest animals will improve overall outcomes. Providing money will be an important part of the coordination but also essential will be the need to communicate between all those involved so that a shared and committed responsibility is achieved.

This submission will concentrate on four species that are of particular concern at this stage – wild dogs, feral pigs, Grey-Headed Flying-Foxes and Wedge-tail eagles. This does not suggest that other pests are of little concern but that they appear to have reasonable control programs in place that are successfully limiting the effects on farmers and the environment. Both rabbit and fox control fit into this category.

Kangaroos are also considered to be pest animals from time to time, but their control under the Kangaroo Management Program is considered to be satisfactory. This is especially the case now that a trial into commercial culling in the eastern zones of NSW is occurring and it is expected that its successful outcome will enable further areas to be opened up to commercial culling. Of continuing concern, however, is that fact that "skin only" shooting is not allowed in NSW and this is putting an unnecessary cost on farmers as well as wasting a valuable resource.

Representatives of the Association would be pleased to give further evidence at any public hearings that the Inquiry may hold in the future.

It is often difficult to capture in words the full impact of pest animals on various agricultural industries, and therefore direct evidence would provide greater detail of the concerns. It

should also be remembered that this evidence is from farmers with direct experience of pest animal problems and their control, rather than a theoretical or experimental approach which is often granted preferential acceptance in the debate on pest animal control.

Some of the direct experiences that farmers have had with a range of pest animals are included in the Attachments to this submission. Letters and other case studies provide graphic evidence of the effects of pest animals.

The Inquiry should also be aware of the reports from similar Inquiries that have been carried out recently. In particular, the NSW Legislative Council's General Purpose Standing Committee No. 5 held an inquiry on feral animals that commenced in May 2001. Its report was published in October 2002 is entitled "Feral Animals" and is available on its website as Parliamentary Paper Number 158.

2. Nationally significant pest animals

As stated in the Introduction, there are many species of pest animals that impact on agriculture and rural communities in Australia, but this submission will concentrate on four major pests for which there is still an inadequate response by authorities to their control. Each of these pests – wild dogs, feral pigs, Grey-Headed Flying-Foxes and Wedge-tail eagles - is discussed below and in the succeeding chapters.

2.1 Wild dogs

Wild dogs have a devastating effect on agriculture across many regions in NSW and their effects are also felt inter-state. In NSW the regions most affected are those in the Western Division and also in the eastern tablelands. Wild dogs prey on livestock, especially sheep, and the costs of this predation combined with the control costs are significant. In the 1980s, annual livestock losses were estimated to be about \$4 million for sheep farmers in eastern NSW.

Control in the Western Division of NSW is managed by the Wild Dog Destruction Board (WDDDB) and is assisted by the wild dog fence that aims to exclude the movement of dogs into NSW from parts of Queensland and South Australia. Although dog attacks still occur in the Western Division, the coordinated control response involving the WDDDB, private landholders and Rural Lands Protection Boards (RLPBs) ensure that their effects are minimised.

However, the situation in the eastern areas of NSW is not one in which the wild dog problem could be described as being managed. A combination of rugged terrain and large areas of national parks has meant that wild dogs remain a continuing menace to livestock producers, especially those adjacent to the national parks. The menace is exacerbated in southern NSW by the prohibition of the use of aerial baiting as a control method.

Apart from loss of production due to the preying of wild dogs on stock, producers have been forced to de-stock sheep from areas because of incessant wild dog attacks. Regulatory authorities dismiss the economic severity of such a decision by stating that alternative enterprises such as cattle could replace the sheep enterprise. Such a response does not recognise that much of the land under question is unsuitable for raising cattle.

Members of the Association in the Adaminaby/Yaouk region of southern NSW have successfully mapped pasture areas that are currently de-stocked or have been sold out of production due to on-going wild dog attacks. The map is based on aerial photographs of the Adaminaby/Yaouk region, and is available on request. Significantly, this is one of the few

maps in eastern NSW that clearly delineates areas of pastures de-stocked due to incessant wild dog attacks. Sadly, the Association is not aware of any attempts by NSW Government agencies to map areas of pasture that have been de-stocked.

In addition, the Association was informed that approximately 20,000 hectares of farmland have been de-stocked in the Wee Jasper/Brindabella region of southern NSW. Farmers estimate that this is equivalent to losing a carrying capacity of approximately 13,000 sheep.

Attempts to gain government recognition of the continuing impact of wild dog attacks have been largely dismissed. Indeed the government has criticised the Association for restricting its studies to only small areas of the state. Farmers believe the government should have been more appreciative of the help of farmers who voluntarily gave up their time to provide information that could be used to better manage wild dogs.

It is disturbing that the government expects struggling farmers to carry out large-scale mapping exercises at their own time and expense, when it is obviously the government agencies' role to provide this information.

It begs the question: How does the NSW National Parks and Wildlife Service (NPWS) expect to fully comprehend the magnitude of the wild dog problem if it is not prepared to properly investigate the impact on graziers?

It must be stressed, that figures on livestock losses can have the affect of masking the true extent of the problem since many farmers have been forced to remove livestock from large tracts of grazing land that neighbours National Parks.

2.2 Feral pigs

Feral pigs impact on a range of agricultural industries with major impacts on livestock, especially sheep, and cropping enterprises. In addition, their rooting behaviour causes forage and land degradation which promotes both weed invasion and soil erosion. They are also implicated in the spread of livestock diseases and farmers are particularly concerned of their role in the spread of any exotic disease, such as foot and mouth disease, if an incursion occurs.

Feral pigs are widespread throughout the state with estimates that they inhabit 61% of the area of NSW and the ACT. NSW Agriculture stated in 2002 that feral pigs were at their highest distribution levels recorded since the 1970s, with an estimate that the national population is between 23 and 28 million.

The direct costs faced by the agricultural sector from feral pigs are related to predation and land degradation. For sheep enterprises, research has demonstrated that lambing percentages are markedly affected by feral pigs. Native animals are also prey to feral pigs.

Feral pigs prefer riparian and swampy habitats and this causes problems for control programs because of access difficulties. The recent and continuing drought provided an opportunity to control feral pigs because of the decline in their preferred habitats left them exposed. Governments, RLPBs and individual landholders cooperated well to ensure that an aerial shooting control program in the north west of the state was successful.

However, what seems to be lacking from a control viewpoint is a nationally coordinated control program. Isolated and piecemeal efforts at control will be undermined through the migratory habits of uncontrolled populations, thus making it imperative that a coordinated approach is adopted.

2.3 Grey-Headed Flying-Foxes

Every year Grey-Headed Flying-Foxes cause significant damage to the \$140 million NSW east coast fruit industry which employs an estimated 1700 people. Crop damage between 10 – 60% is common and losses are estimated at \$32 million in the last year.

The Grey-Headed Flying-Fox is a transient, native, nocturnal nectar and fruit feeding bat found in coastal NSW mostly east of the Great Dividing Range. Extensive modification of native vegetation, largely due to urban encroachment has significantly reduced the availability of native food sources for flying foxes leading to increased attacks on commercial fruit crops. Flying fox damage to orchards includes eating fruit, biting / clawing fruit, urine and faecal contamination, tree damage and fruit dropping.

Despite the apparent abundance of flying fox numbers, the Grey-Headed Flying Fox was listed as a vulnerable species under the *Threatened Species Conservation Act 1995* (TSC) in 2001 and under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC) in 2002. To date neither Commonwealth nor NSW recovery plans exploring the management of flying foxes have been prepared, despite the significant impact that the listings have had on the way that flying foxes can be managed by orchardists.

The listing of the Grey-Headed Flying-Fox under the EPBC has created confusion about growers' responsibilities in considering management options of the Grey-Headed Flying-Fox. After the listing in 2002, the Commonwealth agreed that any person operating under a valid State permit for the management of Grey-headed Flying-foxes did not need to refer their activity to the Commonwealth for approval under the EPBC Act. However a High Court challenge of this assumption by the Humane Society in 2003 has lead to the Commonwealth Department of Environment and Conservation (DEC) to require individual fruit growers to consider the facts and circumstances that relate to their flying fox management activities in determining whether these activities are likely to have a significant impact on the species and therefore have to be referred to the Commonwealth for approval under the EPBC legislation.

This duplicative administrative requirement is not easy for growers to use in their management of the pest animal and requires simplification.

The protected status of native species that impact on agriculture is an issue of major concern to farmers. Such protection restricts the control methods that farmers can use to mitigate the damage to their enterprises and this has serious economic consequences. As a result farmers are bearing the direct cost of species protection on behalf of the whole community but are not compensated for their efforts. A similar scenario to the flying fox issue occurs with the Wedge-tail eagle which is discussed below.

Farmers do not reject the fact that our unique native fauna needs to be protected, but they reject the current situation where most of the costs of that protection are borne by individual producers.

2.4 Wedge-tail eagles

The Wedge-tail eagle is a protected species and consequently that limits its control by farmers. There are conflicting reports on the size of the eagle population in NSW and Australia because despite official claims of reduced populations, farmers in many regions

report increasing numbers. The letters in the Attachments provide evidence from a range of farmers on both eagle numbers and their impact on agriculture.

There are also conflicting reports on the impact that Wedge-tail eagles have on agriculture with much of the modern literature suggesting that their major diet does not include farmed animals. The articles suggest that they feed on rabbits, marsupials, reptiles, birds and carrion. Any complaints from farmers that eagles are implicated in predation of farm animals are thus dismissed with authorities citing the published articles.

However, many farmers have a much different experience of the Wedge-tail eagle. Many have personally witnessed attacks on livestock, especially sheep and goats. Such predation causes economic loss to affected farmers, and many have been forced as a result to discontinue vulnerable enterprises. Others are in situations where economic imperatives require them to continue with the vulnerable enterprises on their properties but accept a lowered economic return as a direct result of Wedge-tail eagle predation.

Many case studies of farmer experiences with Wedge-tail eagles are included in the Attachments.

3 Approaches to the control of pest animals

In order to limit the effect of pest animals on individual farmers and on the wider community, it is essential that effective and efficient control programs are operational. It is also essential that there is equity in the sharing of costs for such programs so that unacceptable burdens do not fall on individual farmers.

From time to time there are conflicting reports on the effectiveness of pest animal control programs and it is essential that such conflicts are resolved in a timely manner. The issue of greatest public concern is the effect of control programs on non-target species, especially when such species are rare or protected.

In such circumstances it is necessary to take a wholistic approach to control. This may mean, for example, that in a poison bait control program a small percentage of non-target animals may be affected. However this loss could be justified on the basis that the method of control was highly effective against the target species as well as being both cost and time efficient.

Also worthy of consideration when determining control approaches is the possibility of commercialising the control arrangements. An example of this approach is found in the Kangaroo Management Program that has a commercial culling program in which both kangaroo meat and skins are sold on both domestic and export markets. Such an approach relies on an accurate and up-to-date population estimate and suitable controls on licensing to ensure the sustainability of the species.

Some consideration of control issues for the four pest animals in question are discussed below.

3.1 Wild dogs

There are three main methods that can be used for large area control of wild dogs in relatively inaccessible terrain. These are strategic aerial baiting, ground baiting (both trail and mound) and trapping. These methods are supplemented by farmers using firearms on their individual holdings. Each of the methods along with their strengths and weaknesses are discussed below.

In addition to control methods, however, the Association believes that a consistently formatted register of wild dog attacks and livestock losses should be adopted for all 48 RLPBs across NSW. In February 2004, the Association recommended the implementation of a uniform wild dog reporting system across all 48 RLPBs to the NSW Pest Animal Council. The Council supported this motion. It now requires State Government agencies, such as the NPWS and NSW Agriculture, to work closely with RLPBs to implement this reporting system.

Farmers should be encouraged to place on record all reported attacks so that wild dog populations and impacts can be accurately monitored. This transparent approach to the collection of information would result in improved cooperation between farmers and government agencies on the most effective means of control. In the past, numerous disputes have arisen between landholders and government agencies over 'official figures' in relation to wild dog sightings, attacks and livestock losses. The introduction of a standardised wild dog reporting system would greatly mitigate (possibly eliminate) future disputes.

Strategic aerial baiting

Scientific evidence strongly indicates that the only effective method to control wild dog populations is strategic aerial baiting with 1080 laced meat baits. Despite this, since 1997, it has been banned in southern NPWS. Aerial baiting is still practiced in northern and western NSW.

The risks to spotted tailed quolls (a marsupial carnivore) is cited as justification, when in fact there is no evidence in the scientific literature to suggest quoll populations are adversely affected by strategic 1080 aerial baiting programs. To date, the NPWS has not been able to produce such evidence.

The effectiveness of aerial baiting is demonstrated by the fact that from 1991 to 1993, researchers from NSW Agriculture and the QLD Department of Environment & Heritage found that aerial baiting with 1080 laced meat baits reduced the abundance of wild dogs in north-eastern NSW by up to 91%.¹ The results of this study were published in the journal of *Wildlife Research* in 1996.

Such studies confirm years of empirical evidence from graziers that strategic 1080 aerial baiting programs are highly effective at reducing wild dog populations, particularly when used in conjunction with local dog trappers and trail baiting.

Unfortunately, the NPWS rarely (if ever) publicises such results to the wider community.

On the 5 April, the ABC Country Hour interviewed Mr Steve Horsley, NPWS Regional Manager, South West Slopes Region, about escalating wild dog attacks on farm livestock in the Cooma RLPB area. In that interview Mr Horsley stated that aerial baiting with 1080 laced meat baits was suspended in the Kosciuszko National Park on the recommendations of a Species Impact Statement (SIS) prepared by Dr John McIlroy, formerly Principal Research Scientist with the CSIRO Division of Wildlife and Ecology in Canberra.²

This statement is grossly misleading.

The 1999 SIS recommended that 1080 aerial baiting should not be undertaken in a small area of the Kosciuszko National Park called the Byadbo Wilderness Area (an area that comprises

¹ **Indices for measuring the efficacy of aerial baiting for wild dog control in north-eastern New South Wales.** Journal of Wildlife Research. Volume 23. pp 665-674 (1996).

² **Aerial Baiting with 1080 poison for wild dog control in New South Wales National Parks and Wildlife Service Reserves. Species Impact Statement.** Prepared for the NSW National Parks & Wildlife Service by Dr John McIlroy, Wildlife Consultant. December 1999.

only 0.9% of the Kosciuszko NP). Recommendation 8.2 of the SIS stated: *“That no aerial baiting is undertaken along the proposed aerial baiting runs in Byadbo Wilderness Area (KNP) until a much clearer idea is obtained of the distribution, abundance and movement patterns of spotted-tailed quolls, foxes and wild dogs in the area”*.³

Importantly, it is the clear understanding of the Association that the SIS did not recommend a total blanket ban on aerial baiting in the remainder of the Kosciuszko National Park or southern NSW. In the future, the Association requests that NPWS officials acknowledge the published recommendations of the SIS.

Mound baiting

Mound baiting involves burying non-toxic baits at stations along baiting runs and covering them with sand or raked soil so footprints of animals visiting them can be identified. 1080 meat baits are then substituted at those stations where non-toxic baits have been removed by wild dogs.

This technique is very labour intensive and involves staff repeatedly visiting and inspecting the bait stations. No matter how carefully a person approaches or handles the bait station a significant amount of disturbance and human scent is left at the site. Farmers report that over a short period of time wild dogs develop ‘shyness’ to uncovering the buried bait.

In addition, farmers have reported that older, cunning dogs urinate and/or defecate on top of the mound baiting stations. This suggests that these wild dogs have become all too familiar with the mound baiting sites. The Association is not aware of any research that shows mound baiting to be an effective method of controlling wild dog populations.

Notwithstanding the disputed effectiveness of mound baiting, mound baiting programs are of limited (if any) value in steep, rugged country that is inaccessible to vehicles such as the terrain in the Snowy Mountains of southern NSW.

Mound baiting from horseback is possible but is a very time consuming exercise requiring three contractors working 7 hours per day for 3-4 days per week up to 6 months per year to cover areas previously aerially baited. In 1999, the Jindabyne District NPWS estimated that mound baiting was 23 times more expensive than aerial baiting.⁴

In 1999, a Species Impact Statement prepared by Dr John McIlroy, formerly Principal Research Scientist with the CSIRO Division of Wildlife and Ecology in Canberra, stated: *“Jindabyne District maintain that, given their annual costs of approximately \$70,000 for wild dog control, aerial baiting is the most cost-effective method to use in the proposed area [Kosciuszko National Park] (P. O’Brien, NPWS, Jindabyne District, pers.comm. 1999). They do not consider that a one-off mound baiting program with no replacement of baits is a cost-effective alternative to aerial baiting. In their opinion, a one-off mound baiting may reduce fox numbers, but is unlikely to have much or any effect on dog numbers. Installing about 200 bait stations in a single day (to partially mimic the proposed aerial baiting) would cost about \$9,000 and involve a major, large-scale logistics operation. Aerial baiting and normal mound baiting in the same area would cost about \$1,500 and \$35,000, respectively (M. Bowden, NPWS, Jindabyne, pers. Comm.. 1999)”*.

³ Species Impact Statement. Aerial Baiting with 1080 poison for Wild Dog Control in NSW National Parks and Wildlife Service Reserves (Dr John McIlroy, Wildlife Consultant, December 1999, pp. 107).

⁴ Species Impact Statement. Aerial Baiting with 1080 poison for Wild Dog Control in NSW National Parks and Wildlife Service Reserves (Dr John McIlroy, Wildlife Consultant, December 1999, pp. 49).

Dog trapping

Trapping can be a useful method for wild dog control but only when used in conjunction with strategic aerial and ground baiting programs. Trapping is principally used for targeting specific 'problem' wild dogs rather than general population control.⁵ Farmers claim that strategic aerial baiting programs are highly effective at controlling wild dogs that roam deep in national parks where vehicle access is not possible.

The effectiveness of trapping is also heightened if the location of the trapper is distant from the target area. In 2003, farmers informed the Association of a dog trapper that travelled 3.5 hours every day to reach wild dog attack zones near Adaminaby/Yaouk, leaving him about 4 hours a day for setting traps to kill wild dogs.

Obviously, this is not an efficient use of taxpayer money and due to the nature of the work it makes sense that all dog trappers should be based adjacent to the target area. However, the efficient approach of having a local trapper may not be acceptable to some as outlined in the following.

Farmers have reported to the Association that some government officials are reluctant to base dog trappers locally for fear of so-called "*client capture*" (i.e. dog trappers being overly influenced by local graziers in their day-to-day trapping and baiting operations). Such an approach would be counter-productive as a close working relationship between dog trappers and local graziers is crucial to the overall success of trapping and baiting programs. Landholders can alert trappers to potential wild dog sightings, movements and attacks on native fauna and livestock.

Shooting is generally an opportunistic method of wild dog control and is not suitable for controlling populations in extensive rugged areas such as those proposed for aerial baiting.

Guard animals

There has been limited research and some anecdotal evidence that guard animals (llamas, Maremma dogs) are effective when included in sheep mobs of deterring wild dog attacks. There needs to be more research carried out on this approach to demonstrate its effectiveness before it can be widely recommended as an alternative method of reducing the impact of established wild dog populations.

3.2 Feral pigs

Possible methods for feral pig control include trapping, baiting and shooting and the relative merits of each of the options are similar to those described above for the control of wild dogs.

Baiting for feral pig control is more problematic than with wild dogs because the amount of 1080 poison required in individual baits is at a higher level and this poses an increased possibility of non-target species being affected. However, continued research is required on the aerial baiting technique because it is the most efficient means of targeting large areas in a short time.

Aerial shooting with trained operators has been used during the recent and continuing drought but this method is costly and its justification would depend on individual

⁵ **Species Impact Statement. Aerial Baiting with 1080 poison for Wild Dog Control in NSW National Parks and Wildlife Service Reserves** (Dr John McIlroy, Wildlife Consultant, December 1999, pp. 93).

circumstances. In circumstances where a residual population of feral pigs is immune to other methods of control and where the terrain is suitable, this method of control is encouraged.

A further potential method of control is “pig-dogging” although this is primarily a “sport” rather than a genuine attempt to control numbers. In fact, hunters have been known to illegally transport feral pigs to differing locations to ensure that numbers remain at sufficient levels for hunting. This practice should be discouraged both because of its impact in promoting pig populations and also because of the increased threat that such activity has on disease spread.

3.3 Grey headed flying foxes

Reporting

The Commonwealth Department of Environment and Heritage coordinates an annual national flying fox count to collect data on the Grey-Headed Flying-Fox and establish whether there has been a significant impact on a listed flying fox population. The count involves volunteers along the eastern seaboard of Australia counting the Grey-Headed Flying-Fox flying out of camps at dusk over two evenings of a nominated weekend (usually in April). The count involves each volunteer using a mechanical counter to record the number of flying foxes, ten at a time, passing their field of vision. By combining the counts for each flight path, colony, region and State, a total national population estimate on a particular date is recorded.

The Association has significant concerns about the validity of these counts due to the transient nature of the Grey-Headed Flying-Fox, uncertainties about the locations of the flying fox camps and inconsistencies in the ability of volunteers to accurately conduct the counts including flight path visibility and weather conditions.

Reduction in impact

The options currently available to manage flying foxes are not appropriate, effective or affordable for many fruit growers who are reaching crisis point because of poor economic circumstances. The Association is exploring several options to manage the impact of the established pest animal population of Grey-Headed Flying-Foxes including conservation schemes, netting, and exit or restructure packages for farmers.

a) Conservation Scheme

A wildlife conservation scheme would involve orchardists being compensated for the actual losses associated with Grey-Headed Flying-Foxes feeding on their commercial crops. It may firstly be necessary to establish a pilot scheme to test this approach.

The Association has estimated that a pilot scheme would cost \$32 million for one year, based on a very conservative estimate of 25% damage to orchard production in the NSW coastal fruit industry. Such a scheme could involve NPWS inspectors or NSW Agriculture District Horticulturists assessing and substantiating damage levels and the growers then being eligible for accessing compensation for the market value of the damaged fruit.

This type of Government funded scheme has been used successfully in many countries including the USA, Norway and Switzerland to persuade farmers to tolerate some losses and to assist in alleviating conflict between differing sectors in the population while still preserving valuable wildlife.

b) Netting

Netting fruit orchards is currently the most effective non-lethal management option for the mitigation of commercial crop damage by flying foxes. However, netting costs on average

\$35,000/hectare and is often cost-prohibitive for most growers as a flying fox management strategy. A government sponsored netting scheme could assist growers to fund the capital costs of netting their orchards.

It is estimated that \$182 million would be needed to net orchards in the NSW Grey-Headed Flying-Fox predation zone, assuming that 70% of the farms require netting. It is envisaged that netting incentives would only be available for existing orchards in areas with demonstrated flying fox damage and that orchardists would be responsible for the ongoing maintenance, insurance and replacement of the net that would be funded by an increase in marketable fruit.

c) Exit and restructure packages

Orchardists in some regions of NSW who are facing continuing losses and an erosion of equity due to annual Grey-Headed Flying-Fox damage are considering leaving the industry.

The cost involved in an industry exit scheme would vary depending on the number of orchardists from flying fox predation zones who took up the scheme. For example a restructure package for orchardists in the Sydney Basin working on an arbitrary figure of \$50,000, would cost \$11.5 million. This would cover costs of sale of a property and re-establishing elsewhere including legal fees, moving expenses and establishing a new enterprise.

3.4 Wedge-tail eagles

In years prior to Wedge-tail eagles being protected, control was based on lowering their population via a combination of poison baits and shooting. Any large scale return to this approach to controlling the impact of Wedge-tail eagles is unlikely and would need to be thoroughly researched and then explained fully to the community if introduced.

There is a lack of accurate information on Wedge-tail eagle numbers on which to base any control program. Also lacking is recent research data on the diets of Wedge-tail eagles that would provide confidence to the community with any control program that might be considered.

Methods of reducing the impacts of Wedge-tail eagles on affected producers apart from a reduction in their populations are difficult to envisage. Netting of farms as outlined for flying foxes is impractical because of the extensive nature of farms on which eagles are a problem.

Providing a habitat for eagles on public land away from livestock farms may be a possibility but its effectiveness in diverting eagles from attacking livestock would be questionable.

A compensation scheme for producers affected by Wedge-tail eagles and similar to the pilot scheme outlined above for flying foxes may be worthy of consideration. The rationale for the approach is based on the fact that the general community is getting a benefit from Wedge-tail eagle protection, but the costs of that benefit are being borne almost exclusively by individual farmers through the loss in income they suffer because they are unable to control the eagles.

4 Adequacy of expenditure on pest animals

There is no doubt that the control of pest animals involves all sectors in an immense cost, and with the continual problems being encountered by farmers from pest animals it is difficult to accept that the current amount is adequate.

It is difficult to determine the actual cost of the control programs because a number of agencies and individuals are involved. However, it would be useful if there was an agency that was responsible for collating the cost figures so that useful comparisons could be made between level of expenditure and effectiveness of control programs.

In any analysis, care will need to be taken that the efforts of individual farmers are included. The various government and quasi-government agencies can quite easily determine from their yearly budgets the cost of pest animal control. However, the in-kind, voluntary contribution from farmers is not generally considered and this gives a biased picture of the relative contributions from all sectors. This needs to be corrected.

Below is some further detail on the adequacy or otherwise of state government funding on pest animal control.

4.1 Wild dogs

Most of the wild dog problems that occur in NSW are related to attacks on farms that emanate from public land. One of the main government agencies responsible for the management of public land is the NPWS (now a division of DEC).

The general public is regularly given the impression that the State Government is allocating an extra \$6.7 million in 2003-04 to control wild dog populations through statements such as: *“The funding provided by NPWS for the plans will come from the extra \$6.7 million secured only 12 months ago”*.⁶

In fact, starting from February 2003, the \$6.7 million will be spread over a four year period. Seldom is this funding timeframe clearly articulated in press releases issued by the government.

The Association understands that in 2003-04, the DEC will spend an estimated \$3.2 million on “on-the-ground” control programs targeting pest animals such as wild dogs, foxes and feral pigs. Significantly, of the \$3.2 million planned expenditure on operational programs, only \$1.2 million has been allocated for the control of wild dogs.

The Association is also concerned that the \$1.2 million may include expenditure on NPWS salaries related to research into the impact of aerial wild dog baiting on spotted-tailed quolls. If this is the case, potentially less than \$1 million is being spent on actually killing wild dogs that prey on native fauna and farm animals. **Note:** In the 2003-2004 NSW Budget Estimates, it was estimated that the NPWS will receive over \$244 million in taxpayer funds. In addition, the NPWS has over 2,000 staff across NSW.

Furthermore, the State Government regularly reports that levels of funding have increased significantly since 2000-01. This may be the case but the information below must be considered.

With the NPWS suspending strategic aerial baiting in southern NSW in 1997, the State Government now has to rely on more expensive methods, such as dog trapping and mound baiting, to control exploding wild dog populations in National Parks. This is an important point that is commonly over-looked by the NSW Government.

⁶ **Renewed Assault on Wild Dogs.** News Release. Attorney General & Minister for the Environment. NSW Government. 26 February 2004.

For example, in 1999, the Jindabyne District NPWS reported that mound baiting was 23 times more expensive than aerial baiting.⁷ Local farmers have been informed by NPWS regional officers that a single mound bait site can cost up to \$1,500 a year to maintain.

Farmers estimate that a single dog trapper – when taking into account administration, operation and vehicle expenses – costs about \$100,000 per year to employ.

The Association has always argued that dog trapping and trail baiting (as opposed to mound baiting) are effective in the Snowy Mountains region, but only when used in conjunction with strategic 1080 aerial baiting.

4.2 Grey-Headed Flying-Foxes

The NSW Government expenditure on Grey-Headed Flying-Fox management is inadequate. There are also several problems with the current licence to harm system and the NSW Rural Assistance Authority loans for netting.

a) Lack of research funding

Despite the enormity of the flying fox problem and the significant impact that it has on NSW fruit production, there has been little government commitment to managing the flying fox problem. Although NPWS claims to support research into non-lethal management options for the Grey-Headed Flying-Fox, the Association is aware that in 2003 both NSW Agriculture and the NPWS determined not re-submit to Treasury a funding proposal for research into alternative management options for flying foxes. This is despite continued requests to fund such research from the NSW Flying Fox Consultative Committee and joint approaches to the NSW Government from independent scientists and organisations including the Nature Conservation Council, RSPCA and NSW Farmers' Association.

The Commonwealth's funding for research has also been inadequate. In 2003/2004, Environment Australia provided the NPWS with \$55,000 for flying fox research projects. This small amount of funding has only allowed for three student research projects including an attitudinal survey of the fruit growing industry. Surely these meagre funds would be better spent on projects that may have tangible and useful outcomes.

There is an urgent need for an on-going financial commitment from both the Commonwealth and NSW Governments for immediate research into options to assist fruit growers to manage the Grey-Headed Flying-Fox.

b) Licence System

Currently the NPWS issues licences to fruit growers to harm flying foxes for the purpose of mitigating damage to crops under Section 120 of the *National Parks and Wildlife Act 1974* and under Section 91 of the TSC. The number of licences available is determined by the NPWS in conjunction with other State wildlife management agencies to not exceed the maximum limit of 1.5% of the national population. This state quota is then allocated to different areas by the NPWS and growers can then apply to the NPWS to access these licences.

In addition to the problems mentioned earlier with licensing due to listing of the Grey-Headed Flying-Fox, problems also exist with the NSW licence application processing system.

⁷ **Species Impact Statement. Aerial Baiting with 1080 poison for Wild Dog Control in NSW National Parks and Wildlife Service Reserves** (Dr John McIlroy, Wildlife Consultant, December 1999, pp. 49).

The system involves growers having to wait considerable periods of time to be allocated with what are often inadequate licences to harm the flying foxes. For example several growers in the Sydney Basin applied for licences during the 2003 / 04 fruit season, waited three weeks for application processing, only to be issued with licences to cull one and two flying foxes on their properties for the entire season.

This season the Association also received numerous complaints from growers concerned with the NPWS process of regionally allocating quotas during the first few weeks of the fruit season. Clearly the licensing system is not working effectively and is in drastic need of an overhaul.

On several occasions NPWS has alluded that licences may be phased out in the future. The Association is seeking a guarantee from Government that orchardists' access to licences for culling flying foxes will continue to allow growers to minimise losses to crops at least until a suitable alternative management tool is available.

c) Loans for netting

The NPWS acknowledges that netting fruit orchards is currently the most effective non-lethal management option for the mitigation of damage by flying foxes and has claimed that low interest loans available under the Special Conservation Scheme, administered by the NSW Rural Assistance Authority, allow growers to erect the netting.

This fails to recognise the fact that netting is not suitable in all areas, that changes to the growing conditions in netted areas are not always favourable and that the costs involved in netting are prohibitive for most growers.

Between 2000 and 2003 only 6 growers took up the Rural Assistance Authority loans. This extremely low rate of uptake is due to the low threshold (\$100,000) relative to the high cost of the netting and the reticence by horticultural producers to take on additional borrowings to fund capital items such as netting because of the high risk of the fruit growing business.

4.3 Wedge-tail eagles

As far as the Association is aware, there are no funds allocated by the NSW government to assist in the management of Wedge-tail eagles. It is essential that sufficient funds be allocated to researching acceptable management approaches that limit the impact of eagle predation on livestock farms.

5 Scope for R&D in response to landholder concerns

Throughout the succeeding sections there have been many references to lack of information, research and management options for pest animal control. The absence of this fundamental information increases the difficulty and cost to farmers for managing pests, while at the same time their productivity suffers because of predation and other influences.

The establishment of the Pest Animal Control Cooperative Research Centre may help to fill the knowledge gap, but its charter seems to be limited in scope. It is essential that its scope is broadened and that its programs are adequately funded so that the problems outlined in this submission can be addressed.

Particular requirements for research for the four pest animals discussed in the submission are as follows:

5.1 Wild dogs

The Association supports the efforts of the NPWS to examine the potential impacts of 1080 aerial baiting programs on native quoll populations both in the north and south of NSW. However, in the meantime, farming families should not be subjected to incessant wild dog attacks on valuable livestock or being forced to de-stock large tracts of freehold grazing land. The NPWS is employing the so-called 'precautionary principle' to the extreme.

Astonishingly, a NSW Parliamentary Standing Committee in 2002 heard evidence from Dr Andrew Leys from the NPWS, of research in the north of the State indicating that quolls rejected 1080 poison baits. In presenting his evidence to the Committee, Dr Leys stated: *"...The results of that [study] were very exciting because they indicated that where the baits had 1080 loaded into them, the quolls rejected them"*.⁸

Similarly, Mr Eric Davis of NSW Agriculture stated to the Parliamentary Committee that: *"...While there is no single procedure which guarantees that 1080 will always be totally target-specific, the combination of correct dose rate, correct bait type and placement strategy greatly enhances target specificity and reduces the risk to non-target animals [such as the quoll]"*.⁹

What the scientific literature reports:

- *Research conducted by the Commonwealth Scientific & Industrial Research Organisation (CSIRO) on the sensitivity of Australian animals to 1080 poison concluded that wild dogs were more sensitive to 1080 poison than marsupial carnivores [such as the quoll].*¹⁰
- *A joint study by Murdoch University, CSIRO and the Agriculture Protection Board of Western Australia confirmed that marsupial carnivores [such as the quoll] have a higher tolerance to 1080 than wild dogs.*¹¹
- *In 1986, the CSIRO reported that native carnivores usually eat repeated small meals rather than one large meal. The study indicated that native carnivores could ingest a sub-lethal dose of 1080 in the first feeding session on poisoned bait, which would make them feel sufficiently unwell not to eat any further bait.*¹²
- *CSIRO reported that the actual risk an individual native carnivore [such as the quoll] faces during a poisoning campaign is governed by several factors, particularly the amount of bait consumed and the concentration of 1080 in the bait.*¹²

⁸ **NSW Parliament Legislative Council, General Purpose Standing Committee No. 5. Feral Animals** (October 2002, pp. 52).

⁹ **NSW Parliament Legislative Council, General Purpose Standing Committee No. 5. Feral Animals** (October 2002, pp. 49).

¹⁰ **The Sensitivity of Australian Animals to 1080 Poison. II. Marsupial and Eutherian Carnivores.** Journal of Australian Wildlife Research. Volume 8. pp 385-399 (1981).

¹¹ **Assessment of an Approximate Lethal Dose Technique for Determining the Relative Susceptibility of Non-target Species to 1080 Toxin.** Journal of Australian Wildlife Research. Volume 16. pp 33-40 (1989).

¹² **The Sensitivity of Australian Animals to 1080 Poison IX. Comparisons between the Major Groups of Animals, and the Potential Danger Non-target Species Face from 1080-Poisoning Campaigns.** Journal of Australian Wildlife Research. Volume 13. pp 39-48 (1986).

- *Studies have shown that 1080 poison does not accumulate in animals. Therefore, leaving a sufficient time interval between baiting programs can prevent any permanent effects of sub-lethal doses.*¹³
- *CSIRO found that populations of birds and small mammals were not significantly affected by ground baiting programs involving 1080 poison that were carried out against wild dogs in the Southern Tablelands of NSW. CSIRO reported that the factors responsible for this finding included: (i) the placement of 1080 baits in habitats not favoured by small mammals; (ii) the rapid loss of toxicity of the baits after distribution; (iii) the rapid removal of many baits by foxes and the consequent decrease in the chances of other animals finding the baits; and (iv) the dietary preferences of the non-target animals and the generally low risk most of them faced of consuming a lethal amount of bait.*¹⁴
- *In 1987, the Agriculture Protection Board of Western Australia investigated the hazard posed to quolls during 1080 aerial baiting programs for the control of wild dogs. It was found that no quolls died in the two weeks following the aerial baiting. This indicated that quolls and other, less susceptible, non-target species of mammals in the pastoral areas of Western Australia were not at risk from 1080 aerial baiting programs.*¹⁵
- *A 1080 ground baiting experiment conducted by NSW Agriculture found that the risk to populations of quolls was negligible. In this study, the number of interactions of quolls with 1080 baits was very low (9 interactions in 6808 bait-nights!). Furthermore, given the dose of 1080 in the bait [which was sufficient to kill a wild dog], quolls had only a 50% chance of being fatally poisoned.*¹⁶
- *NPWS regularly justifies the suspension of aerial baiting in southern NSW on the slim findings of a single study that involved ‘presenting’ captive quolls and quolls in the field with non-poisoned meat baits.*¹⁷ *First, captive quolls kept in a confined outdoor enclosure [measuring only 20 square metres] were found to detect and consume meat baits. Second, at a field site known to be highly active with quolls non-poisoned meat baits were detected and consumed. Basically, the study confirmed what every farmer (and scientist) already knows, that is, quolls can detect and eat meat – particularly when ‘presented’ with meat in captivity! Significantly, the study did not investigate the affects of 1080 poison on native quolls.*

To date, the NPWS has not been able to produce any field experimental data that indicates that 1080 baiting programs (including aerial baiting) have a significant impact on quoll populations.

Finally, wild dogs and foxes are a threat to spotted-tailed quoll populations through predation and competition.

¹³ **The Sensitivity of Australian Animals to 1080 Poison. I. Intraspecific Variation and Factors affecting Acute Toxicity.** Journal of Australian Wildlife Research. Volume 8. pp 369-383 (1981).

¹⁴ **Effects on Non-target Animal Populations of Wild Dog Trail-Baiting Campaigns with 1080 Poison.** Journal of Australian Wildlife Research. Volume 13. pp 447-453 (1986).

¹⁵ **An Assessment of the Hazard Posed to Northern Quolls (*Dasyurus hallucatus*) by Aerial Baiting with 1080 to Control Dingoes.** Journal of Australian Wildlife Research. Volume 16. pp 569-574 (1989).

¹⁶ **Ground-placed Baits for the Control of Wild Dogs: Evaluation of a Replacement-baiting Strategy in North-eastern New South Wales.** Journal of Australian Wildlife Research. Volume 23. pp 729-740 (1996).

¹⁷ **Susceptibility of the tiger quoll, *Dasyurus maculatus*, and the eastern quoll, *D. viverrinus*, to 1080-poisoned baits in control programmes for vertebrate pests in eastern Australia.** Journal of Wildlife Research. Volume 25. pp 33-40 (1998).

5.2 Feral pigs

More research on aerial baiting is also required for feral pig control. The Association welcomes the recent funding by Meat and Livestock Australia and the National Feral Animal Control Program for the Pest Animal Control CRC to conduct such research and looks forward to a favourable outcome and timely implementation of the new approach.

5.3 Grey-Headed Flying-Foxes

There is currently a significant lack of research into management techniques and population monitoring into the Grey-Headed Flying-Fox. Necessary research includes: monitoring the population using sound standardised techniques; monitoring the levels of flying fox damage in orchards; monitoring success of current flying fox management strategies; and exploring cost-effective, non-lethal management strategies for flying fox.

A proposal for this type of research work has been prepared by the Flying Fox Consultative Committee and estimated to cost \$1.5 million.

5.4 Wedge-tail eagles

There has been very little recent research on Wedge-tail eagles and it is important that if these eagles are to continue to remain a protected species that appropriate research is conducted. Necessary research includes: monitoring the population using sound, standardised techniques; monitoring the levels of eagle predation on livestock; determining the effectiveness of decoy animals to protect livestock; determining whether alternative habitat provision can successfully deflect eagles from attacking livestock grown under extensive grazing conditions.

6 Promotion of community understanding and involvement in pest animals and their management

The control and management of pest animals requires a whole of community acceptance of the rationale for the particular control method adopted.

This is especially the case for protected or threatened species which although their populations may be under pressure, they still create severe economic loss to individual farmers because of predation or some other effect on production.

The only way that this understanding can be achieved is through an objective process of sound research and evaluation under field conditions. The information provided by this approach will enable all sectors of the community to deal with the real issues of pest animal management and control from a rational perspective.

ADDITIONAL INFORMATION HELD BY THE COMMITTEE

ATTACHMENT TO SUBMISSION NO. 31

**ATTACHMENTS, APPENDICES AND PHOTOGRAPHS PROVIDED WITH
SUBMISSIONS ARE HELD IN THE COMMITTEE OFFICE**