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We, Terry Korn and Mike Braysher, would like to make the following submission to the Senate Inquiry Impacts and management of feral horses in the Australian Alps.

Our credentials on the issue.

Dr Mike Braysher. Worked in the pest management field for nearly 40 years, both at the on-ground level and latterly in strategic planning for effective management of the damage due to pests, including assisting government and communities to address their pest management issues. In the 1990s he was seconded to the Commonwealth (from senior wildlife manager for ACT Parks and Conservation), to review the past 150 years of pest management in Australia and to develop the current best practice approach. During that time, he co-authored and/or edited several books on managing Australia's pest animals including wild horses. These are still regarded as standard guides for managing Australia's pests. In 2017, based on his experience, he published a text book with CSIRO "*Managing Australia's pest animals; a guide to strategic planning and effective management*". In essence, the book stresses the need to focus on reducing the damage that pests cause rather than trying to kill as many as possible, mainly because it is not practicable to eradicate established pests with currently available techniques. In 2012, was a member of the working group that developed the current ACT Pest animal strategy which is based on the principles and strategic approach outlined in the 2017 CSIRO publication.

Mr Terry Korn PSM has worked in or been associated with pest animal management for a period of about forty years in New South Wales. He was Program Leader (Vertebrate Pest Management) in NSW Agriculture before moving to NSW National Parks and Wildlife Service where he was responsible for the western 70 percent of NSW and acted as Director General.

Terry was awarded a Meritorious Service Award for Outstanding Achievement whilst with NSW Agriculture and was awarded the Public Service Medal in 2007.

During his career Terry has either chaired or sat on numerous boards, committees or organisations associated with natural resource management and conservation and is highly experienced at working with communities in conflict. He has been president of the Australasian Wildlife Management Society, the independent expert for the NSW Natural Resources Commission review into Pest Animal Management in NSW and has chaired the Feral Animal Aerial Shooter Training (FAAST) committee.

Terry has undertaken consultancies with the commonwealth government on a review of 1080 use in Australia and the preparation of national management guidelines for feral pigs. He has also undertaken overseas consultancies with ACIL (Australia) in Bhutan and Indonesia on pest animal management.

If required, we would be happy to meet with the senate committee to answer questions or to expand on our submission.

Key Points of our Submission:

- 1 The management of horses in KNP and the Australian Alps is primarily a people (socio/political or human dimension) problem, not an ecological science problem. This must be recognized upfront if a solution is to be found.
- 2 Feral horses will never be eradicated from KNP or the Australian Alps – we should stop talking about eradication.
- 3 The focus must be on reducing damage by horses and other pests in critical areas rather than focusing on a simple reduction in numbers of feral horses.
- 4 Effective engagement of all stakeholders must occur via a professionally facilitated process in the development of any meaningful management program to ensure ownership.
- 5 The current management program in KNP is unable to control either damage or numbers of feral horses. It is an unsuccessful political solution to a complex socio/political issue.
- 6 Aerial shooting and aerial mustering must be added to the current suite of control methods if damage control is to occur.
- 7 The management of feral horses must be incorporated with the management of other large vertebrate pests such as deer, pigs and goats to make it more cost efficient.
- 8 Adequate funding must be provided for long-term monitoring of any implemented management program and adaptive management principles applied.
- 9 The commonwealth government must be actively engaged in this issue because it involves the commonwealth Environment Protection and Biodiversity Conservation act and the commonwealth governments obligations under international agreements such as the Convention on Biological Diversity.

The focus of our submission is on the approach that should be taken to developing an effective plan for horses and other pests and its implementation by addressing the human dimensions of the issue rather than the ecological science.

Damage due to wild horses in the Australian Alps. We will not cover this issue in any detail as the damage is well documented and will be covered extensively by other submissions. Suffice to say that we accept the science that horses are causing significant damage to natural habitat and associated wildlife in the alps, particularly to alpine streams and swamps. A significant reduction in the density of horses and other exotic pests such as deer and pigs is essential in key areas. The degree to which pest density needs to be reduced is not precisely known, primarily because the relationship between pest density and pest damage has not been well quantified. However, the reduction needs to be significant considering that the damage due to horses in 2014 was unacceptable when the population was in the order of 4,500 horses; the population is now estimated to be closer to 18,500.

Eradication of established pests is rarely possible. While eradication, namely total elimination of horses and other pests in the alps, might be a desirable aim, it is not possible with current technology nor current social mores. Eradication of established pests is incredibly difficult to achieve, except on smaller islands and under special circumstances on the mainland, (for example, when pest numbers are small and they have not fully established, or where pest populations are isolated and control is relatively simple). This is not the case for horses and other major pests within the alps. Several criteria

need to be met to achieve eradication (see below). Hence some horses and other pests will remain within the alps for the foreseeable future. Acknowledging this fact may provide a point for negotiating with pro-horse groups over future management.

Criteria for Eradication

The following six criteria can be used to evaluate whether eradication is possible in any given situation (Bomford & O'Brien, 1995).

Essential

1. *The control operation can remove the pests faster than they can reproduce.*
2. *Immigration can be prevented.*
3. *All reproductive individuals are at risk from the available techniques.*

Desirable

4. *The pest can be monitored at very low densities.*
5. *The socio-political environment supports eradication.*
6. *The high costs of eradication can be justified.*

The Human Dimensions of the Horse problem

Engagement with key groups and individuals is essential, both those that are pro-horses and those seeking to manage them. Conflicting views about pest animals, and how best to manage the damage that they cause, can determine the success or failure of a pest management program. This is especially important where large-scale management programs need to be coordinated and involve a range of stakeholders with varying perceptions of the pest. If the perceptions of key stakeholders within the management area differ so much that they decide not to cooperate, or choose to actively oppose management, effective pest management is impossible.

Therefore, when trying to work out the dimensions of a pest problem it is important to determine:

- who has the problem?
- the extent of the damage believed to be caused by the pest;
- what the stakeholders want to do about it; and
- what pest management methods are available and acceptable?

Understanding the different perceptions of all key stakeholders towards the pest animal is essential, as this can limit the choice of techniques and strategies used to manage the pest and its associated damage. This is a two-way process, where the stakeholders' understanding of the pest and how to manage it is valued equally with that of others who may be involved, such as scientists and government agencies responsible for pest management. Active and open consultation between the parties also helps to develop trust and a sense of cooperation. Too often, pest management programs are developed and implemented in a top-down approach by government: this does not encourage those who are affected by the pest to have ownership of the program.

Building trust between stakeholders who disagree or have different values can be difficult and time-consuming, but it is crucial to the success of any pest management program. Sometimes people can become defensive or disagree because they lack awareness or understanding about pests and the types of damage they can cause. It can help to overcome this by providing people with more information and evidence from research, or case studies that show the damage that pests can cause, and the recommended ways for managing pests in a conflicted situation such as in Kosciuszko. This builds the understanding and overall capacity of those involved, so that everyone can work together to deal with the range of complex issues that arise with pest management.

Where tensions are high and opinions are strongly divided, a professional facilitator can help the stakeholders to develop a common or agreed approach. An essential part of the consultation process is to establish common ground on the issue, who is likely to benefit most from pest management and, ultimately, who should pay.

Effective engagement of all community interest groups was not undertaken in developing the current wild horse management plan in Kosciuszko National Park. It must be an integral part of any future management plan.

The focus of management needs to be on reducing the damage due to horses and other pests, not just reducing numbers. Because horses and other pests cannot be eradicated (see above discussion), management needs to determine the pest density required to reduce the damage that they are causing to an acceptable level in specified areas. Pest animal damage can be social, economic, environmental, cultural or a combination of these.

When developing a pest management plan, it is important to identify the damage caused by the pest animals of concern, with the focus directed towards a desired outcome (that is, a reduction in damage caused by pests to an agreed, acceptable level in specified areas). The success of the management plan is measured against this outcome – not based on the numbers of animals remaining. However, because it is not always possible to accurately measure the reduction in damage caused by pests, the reduction in pest animal abundance is often used as an indication of the likely reduction in damage. *Nevertheless, an effective program to monitor and assess the effectiveness of management in reducing damage, needs to be an essential component of the management plan.* This is important to ensure that management is achieving the desired result, and to refine the relationship between pest density and the level of damage, and hence further refine the management plan.

Techniques for managing horses. Techniques used to manage wild horses in KNP must humanely and effectively reduce the density of wild horses to less than at least 4,000 (NB this population was causing unacceptable damage in 2014), primarily from the highly fragile country above the tree line and to prevent horses establishing in areas of the park where they currently do not occur. It is clear that the methods used in recent years, namely passive trapping, mustering and limited ground shooting have not been sufficient as shown by the rapid increase in the horse population over the past decade. While these methods may play

a role in future management, additional techniques that remove much larger numbers are required. These are aerial muster where access and traps yards are practical, and aerial shooting.

Aerial shooting is widely used as a pest animal management tool in Australia. In NSW it is used for most pest species (cats, foxes, deer, pigs, goats, wild dogs) except feral horses in national parks due to a political decision taken in 2000. New South Wales Local Land Services has conducted aerial shooting of horses outside of national parks. All aerial shooting in NSW is governed by strict rules of engagement underpinned by rigorous training of shooters and compliance with codes of practice (COPs) and Standard Operating Procedures (SOPs) for each target pest animal species.

The Feral Animal Aerial Shooter Training (FAAST) program began in the early 1990's in NSW and has evolved over time into a closely overseen program which produces highly skilled, professional shooters (both male and female) who operate in field conditions under stringent rules and tight supervision. For many years the FAAST committee included a member of the NSW RSPCA who contributed to the current training schedule and participated in reviews of incidents which potentially involved animal welfare. The NSW RSPCA supports aerial shooting of horses under specified conditions, delivering better animal welfare outcomes than trapping followed by transport to a knackery. The NSW FAAST program is seen as the benchmark aerial shooter training program in Australia.

Priority areas. The Draft Kosciuszko National Park Wild Horse Heritage Management Plan identified the key areas for initial management. An effective monitoring program may identify additional areas that require action.

Examples where engagement with interest groups with differing attitudes towards management of pests have been successful.

The horse management issue in Kosciuszko is primarily a “people” problem rather than a technical science problem. Social science is therefore more important than reductionist, technical, biological or ecological science in moving this issue forward.

There are several examples where effective community engagement underpinned by social science has solved complex pest animal management issues. We provide the following three examples with a number of different species in a wide range of settings:

1. An example of the approach that could be used to develop an effective management plan to manage wild horses in Kosciuszko, is contained in the attached paper re wild horse management in Namadgi National Park (Braysher and Arman, 2014). Admittedly the problem was much smaller than that being addressed in Kosciuszko, but many of the conflicting groups are similar. A copy of a journal paper on the program is attached.

2. Another is the nil tenure approach that was developed and successfully implemented to jointly manage wild dog damage in the Wee Jasper area. While management of wild dogs in land adjoining national parks is less contentious than the wild horse issue, nevertheless, before the cooperative approach was taken, wild dog management was a highly contentious problem that caused major conflict between graziers, national parks and conservationists. See attached outline of the Brindabella and Wee Jasper wild dog and fox management program.
3. The third is the large scale feral camel management program across Australia's rangelands. The program was developed due to growing concern from camels invading indigenous communities and causing obvious damage to desert wetlands and cultural heritage sites. There was also the growing threat of vehicle collisions, as well as camels affecting access to airstrips by the light aircraft on which remote communities are so heavily dependent. It was also recognized that affected communities had varying perspectives about camels and if and how they should be managed. Hence the developers of the Australian Feral Camel Management Program (AFCMP) understood the importance of spending a considerable amount of time and effort on ongoing community consultation and engagement. Previous experience showed that it could take over a year to achieve informed and enduring consent from Aboriginal land owners where consultation across multiple communities was required through a series of meetings, in group and one-on-one situations. Rushing this process may mean that community views were not properly informed and/or represented and could lead to complications once operations commenced.

Monitoring. It is essential that an agreed monitoring program to assess (and hopefully demonstrate) the effectiveness of the program be developed, implemented and maintained for at least 10 years. As indicated earlier, monitoring is required to more accurately determine the relationship between exotic pest density and the damage that they cause and also to assist managers to refine the management program.

Why should the Commonwealth Government be involved? Wild horse and their management are a major issue in other parts of NSW as well as in other states and territories including Victoria, Queensland and the ACT. There are wide ranging implications for The Environment Protection and Biodiversity Conservation Act (EPBC Act) which is the responsibility of the Federal Environment minister. In addition, wild horses in Kosciuszko are connected to populations in Namadgi National Park (ACT) and Victorian Alpine National Parks. A consistent approach to managing wild horses is necessary for effective management. Also, the Federal Environment Department is a co-member of the Australian Alps National Parks Cooperative Management Program.

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Appendix

Brindabella and Wee Jasper wild dog/fox case study

The wild dog and fox program is centred on the Brindabella and Wee Jasper area in the NSW high country.

Much of the area is state forest (mixture of native forest and pine plantations), and national park with the rest being private land consisting of 12 properties where sheep and cattle are grazed on a mixture of cleared and timbered country. Damage to stock due to wild dogs and foxes to stock has long been a highly controversial issue throughout the Australian high country. In this program, dealing with a relatively small number of landholders made it easier to work through the complexities of the issue and to come up with a workable solution.

Many of the sheep grazing enterprises are adjacent to or close to native bush land which is privately or publicly owned, with a large bush-grazing interface. As a result, wild dogs, weeds, wombats and kangaroos are seen by private land managers as breeding up in the park and forest land and spilling onto the grazing properties to cause damage. Many graziers also considered that most fires came from the parks. In contrast, many park officers saw wild dogs (dingoes) as the top order predator and playing an important role in maintaining the health of the wildlife community although they also recognised the damage that they caused to stock. Now most of the grazing properties are family run so there are less people to undertake wild dog control and other farm management tasks.

A big change has been the recognition that stock losses due to wild dogs is not just an economic issue. The psychological impact on farmers from waking to find their stock maimed or killed by wild dogs, often day after day, was likened to city dwellers having their house broken into and valued possession destroyed night after night.

Until the cooperative wild dog and fox control program commenced, wild dog control was mainly reactive. A wild dog trapper was dispatched in response to reports of stock losses. The result was that there has been a long standing hostility between the farmers and NSW national parks and

forestry. Previous attempts to try and develop a rational approach to managing the problem often descended into blame games and little progress.

Attitudes began to change as a result of studies that increased understanding of wild dog behaviour and movements. Most attacks on stock were by wild dogs dispersing from adjacent bushland, areas which were not always managed solely by public land managers. A suggested solution was to manage wild dog attacks on domestic stock by targeting these dispersing animals on the periphery of bushland areas in a buffer area where it joined the grazing land. But knowing this was one thing, the challenge was to develop a joint understanding between the stakeholders and a cooperative approach to manage the issue.

In summary the wild dog management issue was:

1. The drain on resources that managing damage of wild dogs and foxes has on private landholders, State Forests and NPWS, especially where this is done in isolation by the various stakeholders.
2. The damage that wild dogs and foxes cause to domestic stock within the Brindabella and Wee Jasper Valleys.
3. The perceived and actual damage that wild dogs and foxes have on native animals within the Brindabella and Wee Jasper Valleys.
4. The lack of coordination in planning and implementing effective, cooperative management programs across the valleys
5. The resultant impact of wild dog and fox issue upon working relationships between the government and private land managers in the valleys. The current management program was established by a working group that had a commitment from all land management agencies.

The interest and communication skills of the local parks ranger was crucial. He had their respect and support. Another key player was the local wild dog trapper; recognised and respected for his extensive local knowledge and experience with wild dogs and their management.

A main reason for the success of the working group was because it had a single issue focus, was small enough for decision making but of sufficient size to cover a variety of views and interests (8 people). Also, the group agreed that it needed to abide by relevant legal requirements for use of baits, toxins etc. and as far as practicable, use of recommended humane techniques.

Information about the biology of wild dogs and how best to control them was sought from relevant experts including the local trapper. This and available reports and pest animal guides were used by the local group to develop an appropriate management plan. Management had two elements:

- strategic control (to prevent dog attacks on livestock) and
- reactive control (to target specific dog attacks as they occur).

A program to monitor the success of management was developed with the assistance of a national research body, the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Also, the working group regularly met to assess the current and potential new techniques as well as the success of the program.

The costs for the wild dog program were allocated between the government land managers, NSW national parks and NSW forestry and the private landholders based on percentage area of land that they manage where wild dog and fox control was required. Management is based on a 5-year rolling program including inbuilt forward funding.

The Nil Tenure approach helped the community focus on the issue and to find solutions rather than laying blame. The resultant communication and working relationship developed through the program has helped to open communication between government officers and private landholders on other issues of concern, not just wild dogs.

Involvement of researchers in the program was also important. This included the Australian Hydatid Control and Epidemiology Program that had been studying wild dogs and hydatid disease in the district and had developed a working relationship with the landholders.

Community engagement is maintained through quarterly meetings of the project steering committee and an annual newsletter circulated amongst the stakeholders and more widely other public and private land managers. Other initiatives were undertaken to ensure continued community enthusiasm and engagement, including trials of new techniques in controlling foxes and wild dogs.

Monitoring and evaluation is an integral component of the program. Monitoring focusses on the frequency of wild dog attacks, and sheep losses and six-monthly monitoring of a series of fixed sand plots in order to record the activity of wild dog, fox and presence and frequency of native wildlife.

Since the program has become established, there is much less tension in the district about wild dogs. In indication of the level of satisfaction with the program was when a nearby group complained to the media about the lack of government support in controlling wild dog attacks. The Brindabella group publicly responded about their program and its effectiveness.

On average sheep losses have been reduced by 75% during the program. Before the plan one landholder estimated that he was losing 250 sheep/lambs a year. He now estimates his losses at 5 per year. Landholders see fewer wild dogs and foxes and more native wildlife, and are reintroducing sheep to areas that were de-stocked due to wild dog attack.

Feral Camel management in Australia's rangelands. The Australian Feral Camel Management Project (AFCMP) was a large-scale pest animal management project that operated from 2009 to 2013. Effective engagement with Aboriginal land owners was therefore critical to the success of the project. Research indicated a range of influences on Aboriginal views towards feral camel management options:

- *Cultural traditional beliefs about resource wastage* – it is against traditional beliefs and laws to kill an animal without using it for food or other purposes.
- *Potential economic and employment opportunities* – the potential for commercial use of feral camels is a key part of discussions about management options.
- *Cultural religious beliefs* – the role of camels in the nativity story of the Three Wise Men has

fostered the belief that camels are a sacred animal in some Aboriginal communities.

- *Acceptance of camels as 'belonging to country'* – some Aboriginal people are not aware that some species such as camels have been introduced to Australia. Some arid country Aboriginal people also see feral camels as creatures with which the desert should be shared, due mainly to their hardiness, resilience to arid conditions and as respected co-users of desert country.
- *Historical connections* – some older Aboriginal people grew up where camels were used by Afghan cameleers for exploration and transport of goods throughout arid Australia.

However, some high-profile feral camel congregation events at about the time the AFCMP commenced meant that many Aboriginal communities were keen to see a reduction in feral camel populations. The incursion of thousands of feral camels into the Kaltukatjara (Docker River) community in 2009, combined with obvious damage to desert wetlands in the Northern Territory, Western Australia and South Australia, were key drivers for many communities to agree that feral camel densities needed to be reduced quickly – and more quickly than commercial use would allow in most cases. There was also the growing threat of vehicle collisions, as well as camels affecting access to airstrips by the light aircraft on which remote communities are so heavily dependent.

The following made engagement of Aboriginal stakeholders effective under the AFCMP:

- *Maps* – maps can help break down the barriers between Aboriginal and non-Aboriginal stakeholders as both groups can easily interpret country using this medium and participants can see that their knowledge is translated directly to marks on the map that will guide the management plan.
- *Visual aids* – grains and piles of rice were used to illustrate the number of feral camels that needed to be removed to reduce the population. The amount of water that a camel drinks per day was demonstrated using containers of water. Satellite tracking maps showed how feral camels roamed widely across neighboring lands and therefore how all landholders in a region had to work together to manage the population. Large 'story board' style posters were used to explain the different management options.
- *Improved access to remote country* – it is often assumed that Aboriginal people living remotely have a good understanding of the condition of cultural sites across their lands. To support the mapping process, the AFCMP facilitated access to remote cultural sites so that Aboriginal landholders could see firsthand the damage being done by feral camels. This required a helicopter for the most remote sites, and road improvements and vehicle access to some other sites.
- *Translators and anthropologists* – these were essential because English is either a second language or not understood, particularly by tribal seniors who are often the primary contact for information and decision making. Male and female translators and anthropologists may be required to work with Aboriginal men and women. Anthropologists record information for future consultation and clarify peoples' traditional ownership of country using genealogies. Their presence is important for avoiding conflict over contested country – usually remote country where family connections have dissipated or been forgotten.
- *Integrating Aboriginal and non-Aboriginal perspectives and priorities* – while there can be an overlap of interests and objectives between Aboriginal people's concerns about cultural sites and non-Aboriginal people's concerns about biodiversity, they are not necessarily

the same thing. Aboriginal people understandably seek employment, economic and cultural outcomes in addition to environmental ones. It is therefore important to develop a flexible project plan that can meet the (sometimes changing) objectives of all parties. The AFCMP was always looking for employment and economic development opportunities for Aboriginal people. Where commercial use of feral camels wasn't feasible, there were opportunities associated with other camel removal techniques such as producing pet meat, training for Aboriginal rangers to ground-shoot camels, and involving Aboriginal people in ground support for aerial shooting. Aboriginal and non-Aboriginal people worked closely together to monitor the environmental and cultural impacts of feral camels.

- *Being realistic about the resources and time required for effective stakeholder consultation and engagement* – the people involved in setting up the AFCMP understood the importance of spending a considerable amount of time and effort on ongoing stakeholder consultation and engagement. The AFCMP experience was that it could take over a year to achieve informed and enduring consent from Aboriginal land owners where consultation across multiple communities was required through a series of meetings, in group and one-on-one situations. Rushing this process may mean that community views are not properly informed and/or represented, and can lead to complications once any operations commence.

Funders need to understand the realities of dealing with diverse stakeholders living in remote areas and allow the time and financial resources for effective engagement. There is no substitute for face-to-face contact between stakeholders in formal and informal settings. This helps to overcome mistrust and build relationships: the AFCMP made a major investment in providing the avenues for such contact to occur.

As a result of the Aboriginal community engagement strategy, the 'camel story' is now part of the everyday language of the communities involved in the project, and there has been a noticeable improvement in the health of the country on a broad scale. There are still unacceptably high densities of feral camels in some areas where aerial culling was not allowed due to a strong preference by some Aboriginal organisations to focus on commercial use. However, it is hoped that ongoing commercial use, supported by aerial and ground shooting where possible, will reduce the feral camel densities to acceptable levels in the medium term. The awareness raised and capacity built under the AFCMP will help achieve this objective.