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Office of Environment and Heritage

Submission to the Draft Wild Horse Management Plan

Thank you for the opportunity to comment on this draft plan.

Please consider the following submission from my office and the Animal Justice Party. It has been noted that the submission should refer to the following:

- outline areas where you agree or disagree and/or the positive and negative aspects of the plan in your opinion
- identify the section heading and number to which your comment relates
- briefly explain the reason for your comment and, if appropriate, suggest other ways to address the issue.

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Introduction

The Animal Justice Party¹ was formed in response to the growing public concern about the lack of attention to animals and animal protection issues by existing political parties. We give a voice to those who cannot speak for themselves and provide a focal point for voters frustrated by the lack of political action regarding the wellbeing of animals. There is a need for laws and processes which recognise animals' intrinsic needs and capabilities and which protect their interests, whether they are domestic, farmed or wild.

At the 2015 NSW election, Mark Pearson was elected to the Legislative Council and in doing so became the first Member of Parliament elected on an animal protection platform in Australian history. The Animal Justice Party promotes the principles of compassion and empathy for all species including humans, and recognises all animals as sentient individuals.

This submission has been prepared in accordance with the Animal Justice Party's Brumby policy².

Plan Overview

The Animal Justice Party recognises the intent for developing a wild horse management plan, in this particular case as a strategy to preserve as much as possible, the unique ecosystems of the Snowy Mountains region. However, we strongly oppose this draft plan as it has been presented in regards to the lack of humaneness, poor science and a failure to provide a long term plan for the protection of both fauna and flora in the Kosciuszko National Park.

Our main areas of concern are:

- **Animal Welfare**
- **Population Estimates** - Accuracy and methodology used to estimate population numbers;
- **Environmental Impacts** - Accuracy and methodology use to estimate alleged environmental impacts, taking into account other variables that can impact research outcomes.
- **Non-lethal & Sustainable Management** - The lack of research and consideration of non-lethal technologies and strategies to manage population numbers sustainably and humanely;
- **Consequences of an Unsustainable Population** - The consequences of a substantially reduced, unsustainable or non-existent population;
- **Heritage Status** - The definition of Heritage status as it applies to the brumby and the responsibility the state has to protect and ensure the survival of such animals.

¹ <http://animaljusticeparty.org/about/charter/>

² <http://animaljusticeparty.org/policies/brumbies/>

Animal Welfare

The Draft Plan list three main objectives, the first of these is as follows;

To reduce the impacts of wild horses on the natural and cultural heritage values of Kosciuszko National Park by reducing the overall population of wild horses using a range of cost-effective and humane control measures.

It is our belief that irrespective of the plan's manifold shortcomings, one thing is certain; the plan will undoubtedly cause great suffering to animals. While there are a range of opinions in regards to the definition of 'humaneness' in relation to the killing of animals, NSW legislation sets out the over-arching benchmark for the humane treatment of animals. The *Prevention of Cruelty to Animals Act 1979* (POCTAA) must be the reference point for government-sanctioned killing of animals. Section 4(2)(d) prohibits "any act or omission as a consequence of which the animal is unreasonably, unnecessarily or unjustifiably... inflicted with pain". As evidence from previous lethal culling has illustrated, the slaughter will result in inevitable suffering and cruelty irrespective of government departmental guarantees. Many horses will suffer slow and lingering deaths from non-lethal injuries due to shooting inaccuracies. In general terms, the process of killing any animal, in this case wild animals, without any justifiable reasoning (for example to euthanize a sick, injured or dying animal) is not humane. Killing healthy sentient beings, even if it can be done without wounding, terror or distress, is inherently ethically and morally wrong.

The plan proposes to reduce, primarily by shooting, an estimated population of 6000 horses down to 600 within 20 years. The number of 5400 slaughtered horses has been miscalculated since, over this period, many hundreds if not thousands of foals will be born to the existing population, resulting in deaths well in excess of 5400. Irrespective of the supposed humaneness, one must ask would the wider community accept the needless killing of up to 6000 healthy wild horses?

Even if all horses were rounded up, shot cleanly from close range, other mob members will certainly suffer distress, confusion and social disruption as family bonds are destroyed. In particular, this killing will involve extreme distress when mothers and/or foals are killed or separated.

Considering the large numbers of horses to be killed and the emphasis on "cost-effectiveness" as outlined in the plan's first objective, it will inevitably result in decreased welfare outcomes as well as unnecessary pain, stress, suffering and cruelty to many individual animals. In addition to the potential for low welfare standards, the issue of self-regulation, oversight and enforcement does not inspire confidence of this plan being humane in any way.

We are also very concerned about the methods and procedures of any proposed cull. Whilst the draft plan does note that the government has ruled out aerial culling and previous answers given by the Minister in

response to questions in Parliament, have confirmed this stance, the Independent Technical Reference Group³ Report states, wrongly, that aerial killing would be the most humane.

Of the in situ lethal control methods assessed, aerial shooting under a 'best practice scenario' had the lowest overall animal welfare impact. Where these conditions are not achievable, ground shooting, or passive trapping/mustering followed by on-site humane killing, were the next best options.

This suggestion that aerial killing is the most humane method is both scientifically incorrect, ignores the historical evidence and fails to take into account the wider community anger at such brutal killing and maiming. NSW and the NPWS must not forget the infamous bloodshed at the Guy Fawkes River massacre site in 2000, and the ensuing public outcry. It was that outcry that resulted in the instigation of the aerial killing ban. The government approved and NPWS organised aerial cull, shot and killed six hundred and six horses in the park, leaving several to die slowly from inaccurate shots from shooters in helicopters. Mares were also found aborting with foaling brought on as a consequence of being shot. In 2002, the RSPCA successfully prosecuted the NPWS for animal cruelty and aerial culling has remained banned in NSW since this time. Comments around this method being the most cost effective seem to outweigh any concerns for animal welfare⁴.

Only recently the cruelty witnessed by farmers in relation to a 2014 government endorsed aerial cull of wild camels⁵ depicted similar stories of animal suffering and 'inhumaneness'. How any government body can still propose aerial either formally or informally, speaks volumes for the lack of a genuine desire to comply with POCTAA. It seems the Independent Technical Reference Group (ITRG) are still maintaining their enthusiasm for another aerial massacre. Recommendation 5 from the ITRG report;

OEH consider the inclusion of a range of lethal control methods, including aerial shooting, in future management plans, with consideration given to implementing an auditing or inspection process to measure compliance with best practice requirements for humaneness.

Recommendations

The Animal Justice Party does not support any method of lethal control. In addition, from an animal welfare standpoint, we do not support practices such as roping, chasing or brumby running in any way, shape or form. Our recommendation is that if brumby numbers and adverse environmental impacts can be justifiably proven, then the best course of action is:

³ <http://www.environment.nsw.gov.au/resources/protectsnowies/wild-horse-plan-management-report-160221.pdf>

⁴ <http://www.smh.com.au/world/australia/aerial-culling-of-brumbies-in-snowy-mountains-controversial-ban-to-remain-20150102-12h144.html>

⁵ <http://www.abc.net.au/news/2014-11-22/claims-camel-culling-program-causes-inhumane-deaths/5910544>

1. The continuation of supported passive trapping and rehoming programs with a targeted goal of increased transparency, communication and support of approved rehoming groups. This is to include predetermined annual quotas so as rescue groups can plan for incoming horses and allocate future facilities and homing arrangements to accommodate.
2. Any proposed population reduction is to be conducted entirely by systematic fertility control. This program should be implemented immediately, and meaningful research into effective large-scale and humane fertility control undertaken. Refer to **Non-lethal & Sustainable Management**.
3. Sick or injured horses who are unlikely to survive in either the wild or re-homed to properties should be euthanized in situ immediately upon capture and examination.
4. No wild horse, under any circumstances, should be transported to any slaughterhouse.

Population Estimates

The essence of this plan is the goal of population reduction, with an estimated figure of 6000 horses being present in the park. The plan clearly states a reduction not in percentage terms of population but of defined numbers, those being a reduction from 6000 to 600 within a 20-year period. Given the significance of the population estimate as one of the justifiable reasons for the slaughter, NPWS should be able to demonstrate confidence in these numbers. The Final report of the Independent Technical Reference Group tells a different story. In fact, the very first Key Finding of this report was;

Independent Technical Reference Group (ITRG) has not been able to reach a conclusion on trends over time in horse numbers or densities in Kosciuszko National Park (KNP) because of problems of comparability between successive horse surveys

Further details in the report in section 2 of the ITRG report go on to further contradict the population findings and indeed the methodology behind such data collection and presentation. Section 2 states;

There are indications from the various sources we surveyed that populations are increasing in some areas of KNP. However, the ITRG cannot, at this stage, draw rigorous scientific conclusions about how numbers and population trends are changing over time, or how they may differ in different parts of the park. This is because of differences in approach between the various surveys.

The question must be asked; how can the government support a plan to slaughter over 6000 wild horses when its own technical advice can't even say that there are 6000 horses to kill? How can such a long term strategic plan to drastically reduce wild horse numbers be justified or necessary, when the truth is no one body knows the real numbers of animals exist at any point in time, both past and future?

The lack of confidence behind not just the population estimates but the actual methodology used is also highlighted in the ITRG report, where it is stated;

An important issue for the ITRG, however, is that there were changes between years in the areas surveyed, the survey technique and the analysis used.

In fact, if we look at the data presented, an actual decline in density of horses per km² from a 2009 density of 2.69 to 1.70 in 2014 reveals that current management techniques of passive trapping and rehoming are working. Yet, again, the ITRG feels compelled to reiterate its lack of confidence in the data and the changing methodologies behind such data.

As Walter and Hone (2003) explains, *“Estimates of the size and density of wildlife populations are essential for effective management”*⁶.

As the ITRG acknowledges, “rigorous scientific conclusions about how numbers and population trends are changing over time, or how they may differ in different parts of the park” cannot currently be made. Ultimately, this calls into the question the population estimate provided within the Review of 6,000 individuals. The ITRG report explains the reason for this as difference in approach utilised in each survey analysed. Despite this, the ITRG report, the corresponding Review and the Draft Plan all use the figure of 6000 in spite of these significant doubts.

The ITRG cannot resolve these complications, nor can it extract the population growth trends that would allow us to answer the headline question.

The headline question being; “Are horse numbers on the increase?” The lack of robust evidence and verifiable data that horse numbers are in the order of 6000 or even on any increase, should immediately cease any plans for population reduction. If the evidence used to justify this slaughter cannot even stand up to its own analysis how can we expect the wider community to accept it? More importantly, how can the fate of thousands of healthy animals be decided by such inaccuracies?

Efficacy issues relating to the 2014 survey data

The confusion regarding wild horse numbers and population surveys is further questioned when we consider that in 2008 there was an estimated 3000 wild horses in the park and by 2016 this number has doubled to an estimated 6000. This data was based on aerial surveys of the Australian Alps National Parks in May 2014 – so figures include NOT just Kosciusko NP but the whole of the Alpine NP areas. Therefore, in reality, the horse numbers for Kosciusko NP would be expected to be less than the numbers referred to in the 2014 survey.

As the 2014 data and reanalysis by Cairns (2015) explains, the results of the previous surveys (particularly the 2009 aerial survey) *“have always been highly contentious with many stakeholders critical of the validity of survey results and subsequent population estimates”*. These critiques, Cairns notes, were primarily

⁶ Walter, M J and Hone J 2003, ‘A comparison of 3 aerial survey techniques to estimate wild horse abundance in the Australian Alps’, Wildlife Society Bulletin, vol. 31, no. 4, pp. 1138-1149

related to *“the precision of the population estimate”* and *“the selection of the survey area”*. Any defect or deficiency in these measures could potentially invalidate the efficacy of these data. Due to these criticisms and issues, the Australian Alps Liaison Committee (AALC) resolved to remodel the survey both in area and design to *“improve the accuracy and precision of the population estimates,”* concurrently noting that these methodological changes made direct comparison between the current and previous surveys problematic.

Changes made to the survey area included an increase in the area canvassed to *“encompass the entire known distribution of feral horses in the Australian Alps”* (minus a minor population of approx. 55-83 horses in the Bogong in Victoria and approx. 10-30 horses in the Dinner Plain/Cobungra zone). The 2014 survey used a method known as canvassing a census zone which hopes to somewhat diminish the potential for a random sampling error. Yet, as Norton-Griffiths⁷ in a handbook on wild animal population estimation explains, this assumption is *“patently false”* as it incorrectly assumes that the animals under consideration are *“completely evenly distributed across the whole area”*. Ultimately this means that if a different portion of the land were studied it would contain a different proportion of animals, and this would affect the end analyses of population density. It is important to note that this is *“irrespective of how accurately the animals had been counted and how diligently the area had been searched”*.

A number of other elements ought to be mentioned regarding the 2014 survey. It was claimed that tandem observers could not be used, as there was insufficient space in the helicopter to allow this, and that a larger helicopter was not used as it was deemed financially unaffordable. Similarly, the survey design was hampered due to financial concerns (*“Some of these designs, particularly those associated with the higher level of precision, were rejected because of cost”*). Further, the 2014 survey *“considered undertaking a more detailed assessment of group size, but due to the increase in survey area requiring more than double the helicopter time (and OH&S requirements to use a more powerful machine), budget constraints prevented any reassessment of group size”*. This, despite the fact that the author acknowledged that *“it is possible that over the entire 2014 survey area, the group (cluster) size figure was closer to three than six horses”*⁸.

The ITRG claims that *“the best available data on horse numbers in the Australian Alps National Parks are provided by large-scale aerial surveys of the horse populations carried out in 2001, 2003, 2009, and 2014”*. The latest data, however, is characterised by the ITRG as a draft and is *“still under active revision at the time of finalisation of our report”*. That is, the final and operable number utilised by the Review and the ITRG report is preliminary in nature and is not considered a concrete representation of population density. How this number can be utilised as a guide informing the control methods when it is openly acknowledged as preliminary, unreviewed and incomplete is a matter that demands further inquiry.

⁷ Norton-Griffiths, M 1978, Counting Animals, J J R Grimsdell (ed.), African Wildlife Leadership Foundation, Nairobi, Kenya.

⁸ The total number of clusters – defined as one or more animal – was 305. Within each of these clusters the range of observed horses was 1-13. Of these clusters, 42% were observed in “open habitat” whilst the remaining 58% were observed in “tree cover”.

Conclusion

Most concerning is the final resolutions from the ITRG regarding the question as to if horse numbers are on the increase. Section 2.2 of the report states;

In general, while there are indications from the various sources above that populations are increasing, the ITRG cannot at this stage draw rigorous scientific conclusions about how densities and rates of change vary across the park.

Furthermore, Section 2.3 states;

Since at this stage, however, we do not have reliable estimates of population change, the best we can do is assume that the population growth falls somewhere near the average for wild horses globally.

These comments documented within the ITRG report reveal serious flaws and a lack of confidence in both population numbers and population increases year on year. How the government can confidently release a Draft Plan, which its main objective is to reduce wild horse numbers from 6000 to 600 within 20 years on the “best assumption” without drawing “rigorous scientific conclusions” is startling. This shows serious failings of research, analysis and any proper review. It implies a predetermined motivation of mass slaughter regardless of the evidence, or lack thereof, and that the objectives of the plan are unjustified and unnecessary.

In addition, Ms M. Young of the Hunter Valley Brumby Association states that ‘A thorough analysis of the current literature available on the population of wild horses across Kosciusko NP and the Australian Alps more widely, in fact, proves that the previous management plan is a success. Since this plan’s implementation, the number of horses seen per square kilometre is down to its lowest level in over a decade. This includes the number of horses removed during the management program – this number is still 20% lower than it was in 2009.’

Recommendations

The Animal Justice Party has serious concerns over the methodology and consistency of past population surveys and the resultant data. Until such time that a scientifically proven, independent and best practice method for population survey can be conducted, peer reviewed and scrutinised, all plans to reduce numbers are to be halted. Whilst we are not experts in wild horse population survey techniques we do recommend:

1. Further research and studies be conducted as well as small scale trials of more accurate and reliable population surveying.

2. Utilisation of the wider community to provide on the ground information on the movement, population dynamics and wellbeing of any wild horse mobs. This could utilise technologies such as apps for identifying individual horses, their preferred grazing areas and health.

However, we do agree in part with the proposed Strategy on page 23 of the Draft Plan which states;

Establish a scientific panel to design a wild horse survey methodology that quantifies the environmental damage caused by wild horses, in addition to estimating total wild horse numbers. This methodology will underpin future wild horse surveys

We encourage this strategy to be broadened to take into account other variables that can impact research outcomes, such as other anthropogenic environmental changes, previous livestock impacts and climate change. We also seek the study of any positive environmental impacts that the wild horse population may have on the environment and to make the scientific panel entirely independent with any subsequent reports to be peer reviewed.

Environmental Impacts

The Animal Justice Party views regards the draft Plan's position relating to the negative environmental impacts of wild horses to be both heavily skewed and not scientifically convincing. The draft Plan provides a table of alleged positive and negative impacts of brumbies. However, it fails to recognise that there are no simple positive or negative impacts; that every impact has numerous, complex positive and negative aspects.

Evolution is a dynamic process and is constantly changing. Species of animals living in a particular place or habitat gradually change as does the ecosystem in which they live. Horses have been present in the mountains for approximately 180 years. Over this time the horse has adapted to the mountain environment and the environment has adapted to the horse. This process is known as 'ecological succession, which is the gradual process by which ecosystems change and develop over time. Nothing remains the same and habitats are constantly changing.

When animals are introduced into a new ecosystem, one of two things occur - they die without issue; or they breed and become naturalised. As soon as an ecosystem begins to support an introduced animal, the ecosystem also starts utilising the changes brought about by that animal. With the introduction of the horses, other species begin to find niches in the disturbed soil and the collapsed stream-beds created by heavy exotic herbivores. Plants begin utilising the nutrients in the large piles of manure. Plants and insects use the big bodies for transportation to new niches around the landscape maximising opportunities for the survival of their own species.

Therefore, once a species is naturalised, once it has found a niche in an ecosystem, it becomes impossible to remove it in large numbers without doing harm to that ecosystem, sometimes more harm than good. In

a rapidly changing environment, as Australia has been for the last two hundred years, the harm of removing a naturalised species is very likely to exceed the good.

It is our belief that if the wild horse is removed from this ecosystem suddenly, it could trigger an ecological catastrophe. Certainly, there has been no thorough research or environmental studies to disprove this point, a fact that should raise concerns around the scientific claims used to discredit the place of the wild horse and its survival in the unique Australian environment. In order to justify the mass slaughter as necessary all impacts must be thoroughly researched. Indeed, it has been humans who introduced these species in the first instance and caused the changes to the ecosystem, so we should be cautious in moving to rapidly eradicate them from this habitat as it may cause more harm than good to the surviving ecosystem.

Lesson to be learnt - Buffalo and Mimosa

The water buffalo is an introduced species that was used for agricultural purposes during the settlement of the Top End of Australia in the 1800's. The BTEC (Brucellosis and Tuberculosis Eradication Campaign) was tasked in the 1980's to remove the buffalo from the Top End of the Northern Territory due to concerns that the buffalo may spread disease to cows in the lucrative cattle industry.

This removal program drastically reduced the numbers of buffalo. However, following this rapid mass extermination there was increased spread of the introduced weed *Mimosa pigra*. This plant is found in the top end of the Northern Territory where it was introduced in the early 1890s. It is now one of the worst weeds of the Top End, and has the potential to colonise all the wetlands of tropical Australia⁹.

Mimosa pigra is a thorny plant that forms dense stands throughout wetlands¹⁰. These stands are impenetrable to most species except the buffalo. It has since been found that the buffalo is the only species that grazed the weed and therefore controlled its spread.

Without the buffalo there has been extensive and costly management options implemented to control this invasive weed. Biological control agents are now required. This is a perfect example of ecological succession in introduced species and the dangers of implementing eradication programs without the appropriate research and study.

Conclusion

The impacts of naturalised species on native ecosystems are especially complex when other changes (anthropogenic or otherwise) are occurring simultaneously. Table 1. Environmental impacts of horses in different types of habitat, (which is sourced from the ITRG Report) is simplistic and skewed towards a perception that the damage caused by the horses exceeds their positive contributions. For e.g. the Table

⁹ https://www.daf.qld.gov.au/_data/assets/pdf_file/0007/65149/IPA-Mimosa-Pigra-PP25.pdf

¹⁰ https://en.wikipedia.org/wiki/Mimosa_in_Australia

identifies manure piles as a negative impact because they suppress vegetation. In fact, while a large manure pile may indeed suppress the growth of vegetation directly underneath the pile in the very short term, it will enrich the soil and promote vegetation growth as it breaks down.

The negative impacts cited and indeed, the use of these reported impacts to justify a mass reduction in numbers have not been peer reviewed, nor has there been any scientific study been done into the impacts of wild horses within the park. The role of brumbies in assisting and protecting other plants and animals through wildfire prevention alone may well far outweigh any negative impacts they may be having. In fact, only one currently unpublished study conducted by one of the anti-horse stakeholders (Worboys et al, 2015) and a Master's Thesis from 26 years ago (Dyring, 1990) have looked specifically at wild horse impacts.

The ITRG Report itself highlights the non-existence on any study or research of the positive impacts wild horses have, instead relying on overseas data. This is another indictment of the lack of science and robust, relevant data that is vital to such a report, especially one that is basing the killing of individual animal based on their alleged impact. Section 3.1.4 of the ITRG Report states;

Some stakeholders have suggested that wild horses can provide 'ecological services' by increasing or regulating species diversity, increasing soil nutrient status, and promoting cool fire conditions as a consequence of grazing. There are however no such scientific results for Australia. In the absence of targeted research on this within KNP, evidence to support or refute this must be drawn from overseas studies.

More scientific, peer-reviewed, studies are required to determine the true nature of the impacts (both positive and negative) of the wild horses. These should then be compared with the impacts of other introduced and native species to determine appropriate allocation of public resources to those areas which will have the greatest effect. It is not good enough to propose to kill over 6000 animals without at least some evidence that they are the cause of the damage you are trying to mitigate.

Recommendations

The issues are clear, thus the actions to address these shortcoming is also clear and the any actions from the draft Plan should be suspended until;

1. An independent scientific review be conducted into the accuracy and methodology utilised to estimate alleged environmental impacts, taking into account other variables that can impact research outcomes, such as other anthropogenic environmental changes, previous livestock impacts and climate change.
2. Further research and peer reviewed studies are to be conducted in regards to both the negative and positive impacts wild horse have on specific ecosystems.

3. A scientific study to be conducted which looks at the consequences, if any, of a substantially reduced, unsustainable or non-existent wild horse population in regards to:
 - a. the current habitat and environment,
 - b. flora (both native and introduced),
 - c. fauna (both native and introduced),
 - d. and the co-existence of the above points.
4. An independent review into the outcomes, effectiveness and cost benefit analysis of recent and current research programs regarding the environmental and ecological impacts of wild horses.

Non-lethal & Sustainable Management

Fertility control has been successfully applied to wild horses, deer and zoo populations for over two decades, beginning in 1996 with application to elephants in Kruger Park¹¹. It is considered to be a more humane¹², and often more effective, form of wild animal management as lethal methods, including shooting, are not precise, may result in prolonged suffering, and necessarily result in successive culling campaigns. Despite a wealth of authoritative evidence on the efficacy of such methods, the draft Plan and associated ITRG Report categorically denies its applicability based on cost and perceived risk. What evidence has been relied upon to prove that alternative methods to wild horse population control other than shooting, such as sterilization, as used in the United States, will not adequately address any perceived problem?

Unlike killing, which simply provides niches for younger, more fertile individuals to fill, fertility control buys time. Older infertile animals continue to hold their territory while every other animal in the population can be rendered infertile. Unlike killing, fertility control, as long as it is carried out using gentle and humane techniques, will involve no cruelty and invoke no public backlash. Unlike mass killing, fertility control, properly funded and supported will help convince the public that the NSW Government is serious about animal welfare and genuinely ready for the long haul in solving this problem.

Sterilisation Control

For a sterilisation method to be considered suitable, a number of characteristics have been presented as prerequisites:

- the vaccine must have an efficacy rate of 90%,

¹¹ Kirkpatrick, J. F., 2011, 'Fertility control: a new and successful paradigm for African elephant population management,' Veterinary Sciences Tomorrow.

¹² Hardy, C. M., and Braid, A. L., 2007, 'Vaccines for immunological control of fertility in animals,' Scientific and Technical Review of the Office International de Epizooties, vol. 26, no. 2, pp. 461-470.

- it must be safe when applied to pregnant animals and must not have any detrimental effect upon either the foetus or neonate,
- it must be reversible and require no surgical invasion,
- have a minimal impact upon animal behaviour,
- have no short- or long-term consequences,
- it must be remotely applicable and not require direct handling of the targeted animal, and it must have prolonged efficacy over a period of years.

One proven method which meets many, if not all, of these conditions, utilises the porcine zona pellucida vaccine (pZP), which effectively and safely functions as an immunocontraceptive, and thus effectively negates the use of lethal control measures¹³. It has been used as a contraceptive medium for the management of wild horses for a number of years, and was initially trialled specific to this species. The vaccine requires injection into the muscle of the animal, a requirement that can be met through the use of remote (dart) delivery.

A 2013 Parks Victoria¹⁴ report on wild horse management and control methods cites the PZP vaccine and notes its success in reducing the fertility of mares in American studies. However, the report erroneously states that it is “a short-term contraceptive” that requires reapplication “regularly”. However, this is no longer the case. The vaccine can be effective on a long-term basis and requires no additional effort comparative to current techniques.

Conclusion

The current NSW Government has been forward thinking in its non-lethal shark management program, especially in the face of high public emotion. Its current program of tagging and sonar technology via smart drumlines has and is proving successful as a genuine long term investment strategy. This approach has adopted widely proven new technologies which fulfil the community expectations of real long term thinking and data collection. The same approach can be and should be adopted in the management of wild horses. The draft Plan acknowledges the significance and cultural value of the brumby to the community and therefore openly states that even if they could totally exterminate the brumby, it does not wish to. Therefore, rather than adopt a wild horse killing plan the government should be looking at long term, sustainable and humane management of the wild horse population. The draft Plan and its strategies, if employed, will result in a mass killing program and will ultimately render the brumby extinct.

¹³ Kirkpatrick, J. F., Lyda, R. O., and Frank, K. M., 2011, 'Contraceptive vaccines for wildlife: a review,' American Journal of Reproductive Immunology, vol. 66, pp. 40-50.

¹⁴ Parks Victoria is a statutory authority responsible for managing Victorian estates, created by the Parks Victoria Act 1998

Recommendations

1. Wild horse population reduction, where necessary be achieved entirely by systematic fertility control. This needs to be implemented as soon as possible.
2. Properly funded and supported research into effective large-scale and humane fertility control to be undertaken.
3. Community, stakeholder and departmental staff education to be conducted regarding the operational, and effective use of alternative of immunocontraceptives (in particular PZP).

Consequences of an Unsustainable Population

It is noted the draft Plans main strategy is to:

Reduce the overall population of wild horses to approximately 600 (400–800) horses within 20 years. This population will be permitted in acknowledgment of the cultural, economic and social values of wild horses in the park. This may be achieved more rapidly, and it is desirable from an ongoing animal welfare and resource requirement perspective that it be achieved as quickly as possible.

It can be safely ascertained that NPWS wishes to not only reduce the wild horse population based on an inaccurate, unjustifiable and unnecessary basis, but to do so in a much shorter timeframe than 20 years. In isolation, reducing individuals to a number of only 600 via mass slaughter will be disastrous to the viability of species.

Whilst the plan to leave 600 horses in the national park in perpetuity appears to be intended as a compromise between the ecological values and the cultural heritage values, it will, in fact, undermine both these values. Two possible outcomes will occur as a result of this plan.

Outcome 1

The 600 horses who are permitted to survive would be left to share among themselves pastures that were previously supporting a healthy population of 6000. Over the next 20 years, they would simply breed back up to at least 6000; and the public (not to mention the horses) would then have to endure yet another proposal for yet another massacre. In a matter of a few years the population will be much higher than when it was before the population reduction began. This is because the younger, more fertile individuals born of the survivors will have plenty of food and space to share. They will quickly fill and exceed the niches left by those removed.

In addition, this rapid individual replacement from such a small initial number will result in not just an equal or increased population but will do so on the basis of a very limited gene pool. A genetic diversity formulated over 180 years of wild survival will be exterminated. In the short to medium term resultant inbreeding will see reduced species viability, genetic disorders and further loss of life due to increased

susceptibility to environmental and external pressures. In essence, the remaining population is unlikely to be genetically sustainable.

Outcome 2

Below a certain level, a remnant population – and that level varies with species and the prevailing environmental conditions following the slaughter – simply cannot survive for long. It would take only one major fire, drought, flood, or an excessively cold winter, and the survivors would be gone, every last one of them. This is more likely to happen with slower breeding animals that produce only one young a year – like kangaroos, flying foxes and horses.

Under this outcome, while the threat of cruel culls of the horses would be over forever, the ecosystem would be susceptible to any adverse effects as a result of a zero wild horse population. Furthermore, a living emblem of Australian cultural heritage, one that this Plan supposedly wants to uphold, would be lost forever.

Risks of Small Populations

Catastrophic natural events are a significant threat to persistence of small populations. These include:

- Fire events – the alpine horse population was significantly reduced in 2003 from 5200 to 2369 horses. With a future fire event and a population of 600 horses the genetic viability would be critically low with a limited recovery.
- Severe winters – especially following a major fire event would potentially devastate the remaining horse population.
- Disease is a very important factor for small populations and specifically those in close proximity to each other.

Minimum Viability Populations

Minimum viability population (MVP) is a concept used in conservation biology to measure the viability of endangered or rare species with small populations. The MVP is the minimum number of breeding individuals that must be maintained for a population to survive given period of time – in the absence of unavoidable catastrophe i.e. natural disaster or disease outbreak.

Major concerns for small populations are:

- Loss of genetic variability
- Reduced overall health or vigour
- Loss of adaptability to the environment or environmental change factors

For the genetic management of small populations an effective population size is critical. Horses naturally have high levels of genetic variation – based on data from most breeds and some wild populations. As a

result, a population bottleneck will occur, this is when a drastic reduction in a population happens which reduces the genetic diversity of the overall population.

The role of brumbies in assisting and protecting other plants and animals through wildfire prevention alone may well far outweigh any negative impacts they may be having. In fact, only one currently unpublished study conducted by one of the anti-horse stakeholders (Worboys et al, 2015) and a Master's Thesis from 26 years ago (Dyring, 1990) have looked specifically at wild horse impacts.

The ITRG Report itself highlights the non-existence on any study or research of the positive impacts wild horses have, instead relying on overseas data. This is another indictment of the lack of science and robust, relevant data that is vital to such a report, especially one that is basing the killing of individual animal based on their alleged impact. Section 3.1.4 of the ITRG Report states;

Some stakeholders have suggested that wild horses can provide 'ecological services' by increasing or regulating species diversity, increasing soil nutrient status, and promoting cool fire conditions as a consequence of grazing. There are however no such scientific results for Australia. In the absence of targeted research on this within KNP, evidence to support or refute this must be drawn from overseas studies.

More scientific, peer-reviewed, studies are required to determine the true nature of the impacts (both positive and negative) of the wild horses. These should then be compared with the impacts of other introduced and native species to determine appropriate allocation of public resources to those areas which will have the greatest effect. It is not good enough to propose to kill over 6000 animals without at least some evidence that they are the cause of the damage you are trying to mitigate.

Recommendations

The issues are clear, thus the actions to address these shortcoming is also clear and the any actions from the draft Plan be suspended until;

4. An independent scientific review be conducted into the accuracy and methodology utilised to estimate alleged environmental impacts, taking into account other variables that can impact research outcomes, such as other anthropogenic environmental changes, previous livestock impacts and climate change.
5. Further research and peer reviewed studies are to be conducted in regards to both the negative and positive impacts wild horse have on specific ecosystems.
6. A scientific study to be conducted which looks at the consequences, if any, of a substantially reduced, unsustainable or non-existent wild horse population in regards to:
 - a. the current habitat and environment,
 - b. flora (both native and introduced),
 - c. fauna (both native and introduced),

- d. and the co-existence of the above points.
7. An independent review into the outcomes, effectiveness and cost benefit analysis of recent and current research programs regarding the environmental and ecological impacts of wild horses.

Heritage Status

The status of wild horses currently differs across the nation. Legislation defines the responsibility of public agencies in each of the states, for example, in South Australia; horses are declared a 'pest' species under the *Natural Resources Management Act 2004*, whereas in Queensland 'feral' horses do not have pest status. As such, the obligations of management authorities to control populations differ between the states.

In response to the October 2000 slaughter of over 600 brumbies in the Guy Fawkes River National Park the NSW Minister for the Environment banned aerial culling in NSW and set up an independent inquiry resulting in a plan of management of horses. The inquiry included the publication of a Heritage Horse Study in 2002 which found that the Guy Fawkes horses had significant local heritage status and are descendants of Australia's cavalry horses.

The region contributed stock to what is now the Waler and Stockhorse. The investigation also revealed, via DNA testing, that inbreeding of Guy Fawkes brumbies is less than 5%, in contrast to Thoroughbreds which are about 20% inbred. The Guy Fawkes horses are the only wild horses in Australia with heritage status.

It is no accident that the Brumby has been romanticised in Australian poetry by Banjo Paterson in 'Brumby's Run' and 'Man from Snowy River' and, along with costumed performers acting out Sidney Nolan's Ned Kelly paintings, featured as a tribute to the Australian stock horse at the opening ceremony of the Sydney 2000 Olympic Games.

The Office of Environment & Heritage (OEH) and the NSW NPWS openly acknowledge the cultural importance of the brumby, but its position is relegated to below the Snowy Mountains themselves, which is claimed to "form an important part of the Australian identity". A 2015 report ('the Cultural Heritage Report') commissioned by the NSW NPWS under the auspices of the OEH to "better understand the cultural heritage values associated with the Kosciuszko National Park (KNP) wild horse population" noted that cultural heritage legislation in Australia focuses upon places¹⁵. However, given the history of cultural connection between the brumby and the Kosciuszko NP, the question should be asked as to whether the cultural significance of such a place would be diminished without the iconic brumby? If the answer is yes, then should it not be appropriate to give heritage status to the Kosciuszko NP brumby?

¹⁵ Melville, G., Johnston, C., Doyle, H., and McLay, C. 2015. National Cultural Heritage Values Assessment & Conflicting Values Report: The Wild Horse Population – Kosciuszko National Park. Prepared for NSW National Parks and Wildlife Services. Brunswick, VIC. Available at: <http://www.environment.nsw.gov.au/resources/protectsnowies/knp-assessment-conflicting-values-2804.pdf>

Final Conclusion & Main Recommendations

In closing, the draft Plan, associated ITRG Report and other reliant literature, appears to be tailored to a pre-determined motivation to exterminate the wild horse population. This will no doubt occur as a direct result of the mass slaughter of up to 6000 individual animals, animals whose only crime is that they are survivors, survivors of the harsh and unique Australian landscape.

The data, strategies and objectives of the Plan are scientifically flawed and in no way satisfy the POCTAA test of justification and necessity. The animal suffering will be insurmountable, and on a scale for which there is no public support.

For all the reasons outlined in this submission the Animal Justice Party totally disagrees with the draft Plan and recommends as a matter of urgency and public interest that the following be adopted:

1. That this draft Plan and wild horse (brumby) management in general be subject to the proper parliamentary scrutiny via a Committee Inquiry.
2. That this current draft Plan and ongoing processes be placed on immediate hold pending the recommendations of the above inquiry.
3. Passive trapping and rehoming of suitable horses should continue with increased transparency and responsibility taken by the NPWS.

Thank you for the opportunity to comment on the draft Plan and we sincerely hope that our submission and recommendations are considered.

For any further information, please contact Josh Agland..

Kind Regards,

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