

**Submission  
No 122**

## **INQUIRY INTO PROPOSED AERIAL SHOOTING OF BRUMBIES IN KOSCIUSZKO NATIONAL PARK**

**Organisation:** RSPCA NSW  
**Date Received:** 13 October 2023

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**(a) the methodology used to survey and estimate the brumby population in Kosciuszko National Park**

The most recent survey of wild horse populations in Kosciuszko National Park was an aerial survey covering four blocks totalling 2675km<sup>2</sup>. It was conducted using helicopter line transect sampling with two observers and was designed and analysed using an automated survey design engine. A single global detection function model was fitted to the data and was used to estimate horse population densities and abundances in three of the four survey blocks.<sup>1</sup>

RSPCA NSW does not hold the expertise to comment on the technical aspects of the survey methodology employed. However, we accept the validity of the estimates on the basis that the surveys have been designed and analysed by an appropriately qualified expert and independently peer reviewed.<sup>2</sup>

**(b) the justification for proposed aerial shooting, giving consideration to urgency and the accuracy of the estimated brumby population in Kosciuszko National Park**

NSW National Parks and Wildlife Service consider it essential to authorise aerial shooting as an available method to control wild horses to meet their legal obligation to reduce the wild horse population in Kosciuszko National Park to 3,000 by the end of June 2027.

It is explained that achieving the population target within the required timeframe would deliver significant benefits for the environment and cultural heritage, reducing the extent of damage caused by wild horses and lowering the risk of extinction for several threatened species (compared to the use of currently authorised methods only, which will not reduce the wild horse population to 3,000 until 2030–31). It is estimated that the use of aerial shooting would result in approximately 8,000 fewer wild horses being killed to achieve and then maintain the target population of 3,000 than if population growth was allowed over the extended period of horse removal.<sup>3</sup>

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<sup>1</sup> Cairns, S. C. (2022). A survey of the wild horse population in Kosciuszko National Park, November 2022. A report to New South Wales National Parks and Wildlife Service, December 2022.

<sup>2</sup> <https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals/wild-horses/managing-wild-horses/kosciuszko-national-park-wild-horse-management/tracking-the-wild-horse-population> Accessed 5 October 2023.

<sup>3</sup> <https://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/pest-animals/wild-horses/managing-wild-horses/kosciuszko-national-park-wild-horse-management/amending-the-kosciuszko-national-park-wild-horse-heritage-management-plan>. Accessed 5 October 2023.

RSPCA NSW acknowledges the demonstrated impacts that horses are having on the Alpine ecosystem and the threat they pose to rare and endemic flora and fauna.<sup>4,5</sup> It is accepted that regulators have statutory obligations to control introduced species that threaten habitats and biodiversity.

RSPCA policy on the management of wild animals includes a requirement that management activities should only be undertaken if it is likely that the aims of the program can be achieved.<sup>6</sup> This policy position includes an acknowledgement that ineffectual management strategies are unacceptable because they carry the risk of impacting more animals than is necessary or impacting animals without commensurate benefits.

While the justification for including aerial culling in the management plan is accepted, RSPCA NSW proposes that continuous evaluation of the management objectives is necessary to ensure that there is a focus on measuring ecosystem impacts as they relate to horse population densities. It is understood that a goal of 3,000 remaining horses was established as a population that would meet the requirements of section 5 of the *Kosciuszko Wild Horse Heritage Act 2018*, specifically to protect the heritage value of the horses. Further research would be valuable to understand more accurately the threshold population for protecting environmental values of the park in the proposed retention areas. Density-impact evaluations have recently been conducted in the Victorian Alps<sup>7</sup>. However, there are no published estimates quantifying horse impacts as they relate to horse density in the Kosciuszko national park to confirm the extent to which a reduction of wild horse populations to 3,000 is necessary or sufficient, to address the ecological threats to the park.

### **(c) the status of, and threats to, endangered species in Kosciuszko National Park**

A number of threatened flora and fauna species exist within Kosciuszko National Park. The park contains important habitat for these threatened species and some of the plant species exist nowhere else on earth.

The Broad-toothed rat provides an example of a native small mammal that has experienced changes to diversity and occurrence in this ecosystem. A study within the northern area of Kosciuszko National Park found a significant negative relationship between feral horse impacts and both Broad-toothed Rat presence and abundance<sup>8</sup>. However, horses are only one of many threats to this species. The rarity of the native rat is attribute to predation by introduced species, competition from introduced species, climate change, fragmentation of habitat and environmental effects associated with a range of large feral herbivores. For effective threatened species conservation, RSPCA NSW advocates for further studies to better quantify the relationship between wild horse densities and a range of native fauna species' behaviour and abundance.

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<sup>4</sup> Driscoll, D. A., Worboys, G. L., Allan et al (2019). Impacts of feral horses in the Australian Alps and evidence-based solutions. *Ecological Management & Restoration*, 20(1), 63-72

<sup>5</sup> Robertson, G., Wright, J., Brown, D., Yuen, K., & Tongway, D. (2019). An assessment of feral horse impacts on treeless drainage lines in the Australian Alps. *Ecological Management & Restoration*, 20, 21-30.

<sup>6</sup> RSPCA Policy E02 Management of wild animals (adopted 06/12/10)

<https://kb.rspca.org.au/knowledge-base/rspca-policy-e02-management-of-wild-animals/>

<sup>7</sup> Berman, D.M., Pickering, J., Smith, D. and Allen, B.L. (2023), Use of density-impact functions to inform and improve the environmental outcomes of feral horse management. *Wildlife Biology*, 2023: e01107. <https://doi.org/10.1002/wlb3.01107>

<sup>8</sup> Schulz, M., Schroder, M. and Green, K. (2019), The occurrence of the Broad-toothed Rat *Mastacomys fuscus* in relation to feral Horse impacts. *Ecol Manag Restor*, 20: 31-36. <https://doi.org/10.1111/emr.12360>

A recent study of impacts in the Australian alpine region determined that observable environmental impacts were attributable to a range of agents. The authors concluded that management of feral horses to reduce their direct impact is unlikely to be beneficial without complementary management to reduce the effects of these other agents of impact because the combined impacts associated with the sign of deer, feral pigs, fire and humans were large compared to that of feral horses<sup>9</sup>. The continued focus on multi-species management is essential for the protection of endangered species.

**(d) the history and adequacy of New South Wales laws, policies and programs for the control of wild horse populations, including but not limited to the adequacy of the 'Aerial shooting of feral horses (HOR002) Standard Operating Procedure'**

A series of nationally applicable Codes of Practice (CoPs) and Standard Operating Procedures (SOPs) for humane vertebrate pest control, including feral horses, have been developed which are available for use by state and territory governments, landholders and pest animal control operators. However, these CoPs and SOPs are not mandatory. The RSPCA recommends that welfare standards pertaining to the management of all species considered as pests, including feral horses, be regulated under state/territory animal welfare legislation as for other domesticated species (e.g. sheep, cattle).

SOP HOR002 for aerial shooting of feral horses has been developed by a suitably qualified scientist. However, it was published over 10 years ago. Relevant research assessing the welfare of horses during helicopter shooting has since been published that would inform a review of the SOP which should be undertaken. For example, pursuit time is an important factor in relation to animal welfare impacts of this control method as it relates to the animal's experience of fear and fatigue. Shooting SOPs should include recommended maximum pursuit times and/or distance rather than merely stipulate that these should be as short as possible. Where groups of horses are pursued during the targeting of an individual horse, this time must also be considered because of the cumulative stress experienced by individuals.

Additional field trials are likely required to refine updated SOPs so that the animal welfare impacts of the proposed procedures can be assessed.

**(e) the animal welfare concerns associated with aerial shooting**

The RSPCA acknowledges that aerial shooting is a management tool that has the potential to remove large numbers of horses over a relatively short period of time or from areas that are otherwise inaccessible. The relative humaneness and effectiveness of this method depends on several factors and most importantly the skill of the shooter and the pilot.

Hampton et al (2017) showed that the humaneness of aerial shooting is highly dependent on the skill of the shooter.

The findings of this study demonstrate the welfare concerns associated with aerial shooting, including:

- At least 1% horses were non-fatally wounded.
- Chase times ranged from 2 to 654 seconds.

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<sup>9</sup> Berman, D.M., Pickering, J., Smith, D. and Allen, B.L. (2023), Use of density-impact functions to inform and improve the environmental outcomes of feral horse management. *Wildlife Biology*, 2023: e01107. <https://doi.org/10.1002/wlb3.01107>

- Approximately 63% - 70% of horses were considered to have had an instant death with total time to death of non-instantaneously killed horses ranging from 3 to 242 seconds (mean of 19s).

Where aerial shooting is conducted it should be audited against appropriate humaneness assessment parameters and must cease immediately if there are any unacceptable animal welfare outcomes.

Given the general nature of the terrain in the Australian Alps, aerial shooting may need to be limited to specific areas of open terrain to avoid negative welfare outcomes.

**(f) the human safety concerns if Kosciuszko National Park is to remain open during operations**

RSPCA NSW hasn't the expertise to proffer a view on addressing human safety risks in wild horse management strategies.

**(g) the impact of previous aerial shooting operations (such as Guy Fawkes National Park) in New South Wales**

In November 2000, a report was published that detailed a review of the aerial culling, by NSW National Parks and Wildlife Service, of 606 feral horses in Guy Fawkes River National Park between 22 and 24 October 2000.

The report describes that over 100 of the destroyed horses were examined by veterinarians and there was not evidence found that "horses had not been killed humanely, and no evidence of indiscriminate targeting away from the killing zone."<sup>10</sup>

One horse was found alive on 1 November, despite having two bullet wounds in the killing zone. The report describes that the projectiles had behaved in a "bizarre way by failing to penetrate the chest cavity".

Had pursuit times and estimated time until death been estimated and reported for a cohort of the horses, it would enable a more complete assessment of welfare impacts of the cull.

The long term impact of this operation on horse population density is difficult to assess from the available evidence. Undoubtedly the removal of 606 horses within three days was a significant depopulation. Estimates on population densities, published in 2009, suggest there was a meaningful ongoing reduction with surveys in 2005 indicating 3.8 horses/km<sup>2</sup> and 2.3 horses/km<sup>2</sup> in 2007<sup>11</sup>. However, the Guy Fawkes River National Park Horse Management Plan (2006) implies that the objective was eradication of horses from the park, with an estimated requirement to remove 78 horses each year to achieve eradication within five years. Unless this objective has changed in the last 17 years, ongoing management efforts have not achieved this goal with an unknown number of horses remaining in the park.

The impact of the aerial cull on environmental conservation is also unable to be discerned from the available information. This would have required studies to have been conducted, at multiple time

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<sup>10</sup> English, A.W. Report on the cull of feral horses in Guy Fawkes river national park in October 2000. A report for NSW National Parks and Wildlife Service, 15 November 2000.

<sup>11</sup> Vernes Karl, Freeman Melissa, Nesbitt Brad (2009) Estimating the density of free-ranging wild horses in rugged gorges using a photographic mark-recapture technique. Wildlife Research 36, 361-367

points, measuring a range of impacts such as soil compaction and fauna abundance and behaviour correlated with horse density measures.

This demonstrates the importance, in animal management programs, of resourcing the entire program to achieve the objectives over the necessary time frame. It also highlights the need for clear objectives, based on impact evaluation, and ensuring the programs have continued evaluation to identify when these objectives are achieved.

**(h) the availability of alternatives to aerial shooting**

There are currently no alternative wild horse control methods available that are capable of removing large numbers of horses, over a short period of time in poorly accessible terrain. NSW National Parks and Wildlife Service report that the implantation, over the last two years, of control methods such as passive trapping and rehoming or removal to a knackery and ground shooting have been unsuccessful in removing sufficient numbers of horses from the park to meet the management objectives.

For a summary of control methods, see RSPCA Australia submission to the Australian senate inquiry into the impacts and management of feral horses in the Australian Alps – submission 84, section 3.2 [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Environment\\_and\\_Communications/FeralHorses47/Submissions](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/FeralHorses47/Submissions)

It is the expectation of RSPCA, that once populations are sufficiently reduced, that there is a strong focus on continued management to prevent population growth and investment in assessing the efficacy and welfare impacts of non-lethal control methods to maintain, further reduce or manage populations.

**(i) any other related matters.**