10 April 2023

To whom it may concern,

Thank you for the opportunity to comment on the impacts and management of feral horses in the Australian Alps. The primary focus of my research group is equine genetics and thus my comments will centre on the management of horses in the park – specifically terms of reference:

a) identifying best practice approaches to reduce the populations of feral horses in the Australian Alps
c) the adequacy of state and territory laws, policies, programs and funding for control of feral horses and other hard-hoofed invasive species in the Australian Alps and their interaction with Commonwealth laws and responsibilities.

Throughout the Kosciuszko National Park Wild Horse Heritage Management Plan there are numerous mentions of "sustainable wild horse populations" and references to heritage value protection; however, the current management strategy lacks the appropriate evidence to accomplish these tasks.

It is not unreasonable to assume that the heritage value of feral horses in the Australian Alps is inherently linked to the ancestry and perceived uniqueness of these horses. However, the current management plan appears to give zero consideration to which horses are culled from the population. By all indications, culling of feral horses in the Australian Alps is done opportunistically, with no regard for the genetic and/or breeding value of the individuals culled. To preserve a population after an extreme population reduction (i.e. 14,000+ horses reduced to 3,000 horses) requires genetic consideration, a perspective the current management plan fails to recognize. Continued opportunistic reduction of the Australian Alps feral horse population and the resulting fragmentation of mating options will likely increase susceptibility to inbreeding depression, which can have severe welfare implications for the remaining feral horse population. A comprehensive understanding of the Australian Alps feral horse population's genetic diversity, ancestry, and population structure is therefore integral to creating a sustainable wild horse population in which the heritage value of the population is protected and animal welfare outcomes are maximised.

Furthermore, a better understanding of genetic diversity in the Australian Alps feral horse population may also lead to a more sustainable and less controversial method of reducing (and maintaining) the population. Investigations into the genetic diversity of

the population are likely to provide insight into genetic markers associated with reduced fertility, thus facilitating the possibility of more targeted approaches to culling. For example, horses with genetic variants associated with reduced fertility could remain in the population, while all other horses could be targeted for culling. Over time, this would substantially reduce the number of foals produced annually and the need for extensive culling efforts. Additionally, genetic insights into the ancestry and relatedness of feral horses in the Australian Alps are also likely to indicate which mobs of horses are highly related and thus can be completely culled without significantly affecting the genetic diversity of the population.

Overall, the current feral horse management plan aims to significantly reduce the number of feral horses in the Australian Alps, but little consideration has been shown for the genetic health of the "sustainable wild horse populations" and there appears to be no readily available genetic evidence that the "heritage value" of these populations is being protected.