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# IMPACTS OF FERAL HORSES: AN OVERVIEW

## IMPACTS OF FERAL HORSES: KNOWLEDGE, GAPS, DIRECTIONS

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The case for urgently removing feral horses from the Australian Alps national parks is now overwhelming. Multiple, large datasets show that feral horses damage vegetation structure, degrade stream morphology and drive declines in threatened alpine bog communities. The damage feral horses cause is widespread, with studies from across the alpine national parks demonstrating degradation and declines of native species, including remote-sensing research (Mackey) and very large field studies, each encompassing more than 150 plots (Wright, Schulz).

There is irrefutable evidence that feral horses eliminate populations of Broad-toothed Rats (Schulz), have reduced invertebrate abundance (Ward-Jones), and are likely driving down Alpine Water Skinks (Cherubin). Further, with expert knowledge of habitat requirements and evidence that horses destroy habitat, there is compelling advice that Corroboree Frogs (Scheele, Evans), Mountain Pygmy-possums (Bates) and the Stocky Galaxias (Lintermans) are at risk without rapid action to remove horses.

We know that, historically, plant species have been dramatically reduced in range when cattle and sheep were the big threat, and horses are likely to have similar impacts across ecosystems (Venn). Finally, damage to bogs and streams will likely increase fluctuations in water flow, and could degrade water quality entering Australia's biggest water catchment (Pittock).

## Look Over There! It's the Deer! Not.

Opponents of effective feral horse control often point to feral deer as the bigger threat, but this Conference proves such opinions are wrong. Based on data from more than 100 plots across NSW, the ACT and Victoria, the same amount of stream degradation was evident, whether the dataset included sites with evidence of non-horse damage or not (Wright); that is, deer and pigs made no substantive contribution to the damage. Cumulative damage was recorded from bogs and riparian areas on the Bogong High Plains, using data that only included horse impacts (Brown). Corroboree Frog habitat depth was halved by feral horse impacts, with no evidence of deer or pigs on the study plots (Scheele). Horses were singled out as driving loss of carbon from wetlands across Kosciuszko, not deer (Hope). In evaluating threats to the critically endangered fish, Stocky Galaxias, Mark Lintermans noted that horses are an order of magnitude more abundant than deer and cause the vast majority of stream damage. Evidence that deer could be part of the problem came from the Victorian eastern

alps (Cherubin) and the dry woodlands of the lower Snowy Valley, where 84% of the dung was from horses and 13% from deer (Ward-Jones). While deer are probably contributing to the impact in dry lower elevations, horses remain the dominant herbivore. Deer should be on the list of things for management action in the Alps, but the rightful priority for protecting the Alps is to remove horses.

## Damage is Cumulative

Critical evidence from the Bogong High Plains suggests that damage accumulates because recovery is very slow. Therefore, even small numbers of horses are causing ongoing degradation (Brown). This was a point supported by literature from New Zealand (Rogers 1991) and the United States of America (Crane et al. 1997), demonstrating that feral horses cause environmental degradation, even at low densities (Scheele). The evidence of impacts, evidence that it is not deer, and evidence that damage is cumulative at low densities provides a powerful, science-based case for removing *all* horses from the Alps.

## How Should Feral Horses be Taken Out of the Alps?

Nick Beeton's study examined the consequences of policies that include or exclude aerial culling. His modelling demonstrates that rounding up a few hundred horses from near roads will not protect the alpine parks. Aerial culling is the only way to reduce horse numbers at the scale, and with the speed and cost-efficiency, that is desperately needed.

## Priorities

Without aerial culling, the horse problem cannot be solved. Government agencies are forced to use localised trapping in the hope of reducing impacts on some important ecological assets. But which ones should be prioritised? Setting priorities is difficult because the information that is available is not evenly spread across ecosystems (Figure 11) and taxa, and is of varying quality (Figure 12). We know the most about wetlands, but evidence from dry woodland demonstrates that other ecosystems are severely impacted by feral horses. For most ecosystems and many threatened species, data on the nature or extent of impacts of feral horses are not available, making it difficult to evaluate priorities.

To conclude, unequivocal evidence that feral horses are *the* single cause of widespread environmental degradation, even at low densities, and are a threat to many native species justifies their complete removal from the Australian Alps national parks. Trapping or rounding up horses cannot solve the problem, but aerial culling can. The urgent dialogue now has to be how can scientists, non-government organisations, agencies and politicians work together to make culling politically feasible.

## References

Crane, K. K., Smith, M. A. and Reynolds, D. (1997) Habitat Selection Patterns of Feral Horses in South Central Wyoming. *Journal of Range Management* 50: 374–380.

Rogers, G. M. (1991) Kaimanawa Feral Horses and Their Environmental Impacts. *New Zealand Journal of Ecology* 15: 49–64.

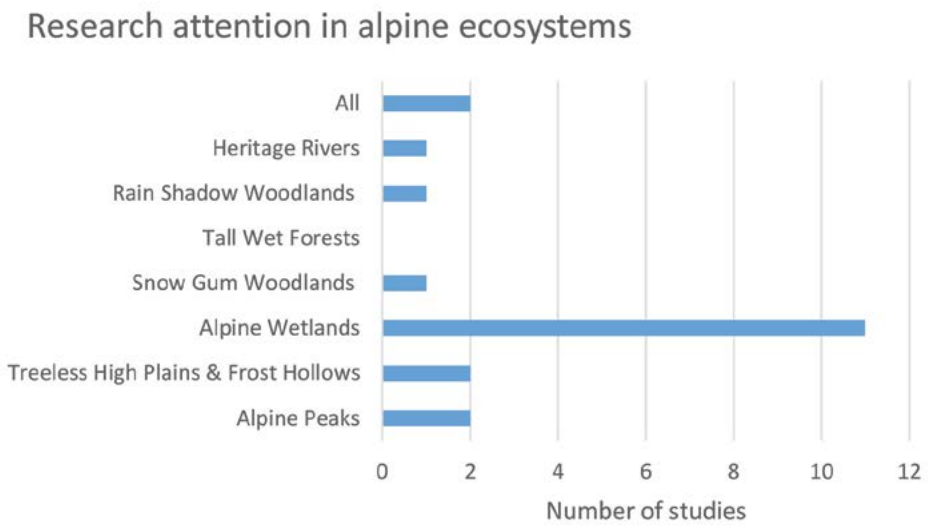


Figure 11. The number of studies presented in this Conference by ecosystem type as defined by Brendan Mackey.

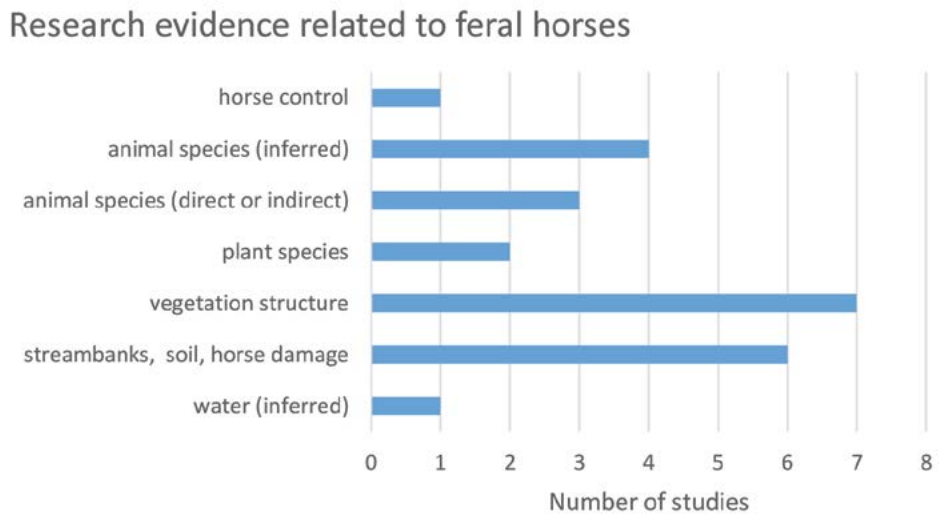


Figure 12. Topics of research and quality of evidence presented in the Conference.

Right: Lower Snowy River, Kosciuszko National Park: Drought, too many feral horses and the elimination of all food near the river leads to starvation and death, October 2018.

The removal of all feed by the feral horses impacts Australian native animal species, removes soil cover and leads to erosion.

Source: Richard Swain.