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BOGONG HIGH PLAINS IMPACTS

IMPACTS OF FERAL HORSES ON ALPINE BOGS, TREELESS DRAINAGE LINES AND ALPINE/SUB-ALPINE VEGETATION COMMUNITIES ON THE BOGONG HIGH PLAINS, ALPINE NATIONAL PARK, VICTORIA

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Feral horses have occurred in the Victorian Alps since the late 1800s, particularly in the far east of the state, but also on the Bogong High Plains, Victoria's largest area of alpine treeless vegetation and part of the Alpine National Park. The area is part of the Australian Alps national parks and reserves, listed on Australia's National Heritage Register in recognition of its outstanding significance. In May 2018, an aerial survey estimated there were 109 feral horses on the Bogong High Plains (Curran 2018). The separate eastern Alps population is much larger, with 2,350 horses estimated in 2014 (Cairns and Robertson 2015).

Activity by horses (and other large ungulates such as deer and cattle) represents a type and intensity of impact to which Victoria's alpine vegetation communities are not adapted; this fact was recognised by the 2011 listing of degradation by feral horses as a threatening process under the Victorian *Flora and Fauna Guarantee Act 1988*.

The broad aims of this study were to:

1. Gather visual (including photographic) and descriptive evidence that documented the nature and geographic extent of negative impacts of feral horses on environmental values in the Bogong High Plains area.
2. Describe any changes in the nature, extent and intensity of negative impacts of feral horses on environmental values through repeat surveys of sites assessed in two previous studies: 'alpine bog' and 'riparian' sites.

Horse-occupied areas on the Bogong High Plains were identified and field inspections undertaken to record and map visual and photographic evidence of horse activity and impacts, including the presence and intensity/extent of dung piles, trampling and pugging, browsing/grazing damage, streambank damage and bare ground. Care was taken to record only those impacts attributable to feral horses.

Between 2006 and 2008, 99 representative alpine bogs across the Bogong High Plains had been assessed to quantify disturbance from a range of agents, including horses. As many of these ‘alpine bog’ sites as possible (56 sites) were revisited and reassessed for horse damage, providing robust, quantitative activity data to inform whether horse damage had changed in intensity or geographic extent.

Each bog was assessed for feral horse activity, and an estimate made of the total proportion of the bog impacted by trampling, pugging, dung, bare ground, vegetation pulling, etc.

‘Riparian’ sites surveyed in 2012 were part of a separate Australian Alps-wide assessment of horse damage in treeless streamside areas (Robertson et al. 2015). Fourteen of the 22 ‘riparian’ sites previously assessed on the Bogong High Plains were reassessed. Each riparian site was relocated, and 10 parameters reassessed within 20 m either side of a 50 m transect line. Measures included the number and impact of horse tracks, the degree of pugging and trampling damage on streambanks, the intensity of horse grazing and the number of dung piles. This allowed direct comparison with the original variables from the 2012 data. Photographs were taken at each site from approximately the same location as previous surveys.

During November and December 2017, 106 sites (70 resurveyed from the prior ‘alpine bog’ and ‘riparian’ studies and 36 new sites) were assessed across the Bogong High Plains. Horse activity was noted at 60 of these sites (57%).

The assessments indicated that feral horses were impacting on environmental values across an extensive area of the Bogong High Plains, with streambank damage, pugging, trampling of wet areas, dung deposition, creation or widening of tracks, roll pits, pulling of vegetation and general trampling. Activity was most noticeable in grasslands and around watering points, but was also common in riparian zones and on the edges of alpine bogs that are listed under both state and federal threatened species legislation.

Over the period 2006–08, less than 4% of bogs assessed on the Bogong High Plains showed evidence of feral horse impacts. By 2017, this has increased to approximately 32%, with evidence of horses expanding their range into new areas. Not only did the proportion of impacted sites increase, so too did the intensity of impacts, with approximately 30% of alpine bogs showing impacts over a greater proportion of these bogs, and 35% of riparian areas assessed showing more severe damage in 2017 than in previous assessments.

The reassessment of 14 riparian sites first assessed in 2012 supported the range expansion indicated by the alpine bog data. An increase in the intensity of activity was also evident in riparian zones where horses have been present for many years. Seven riparian sites were reassessed in that region, and four were found to be in a worse state. No sites in that region experienced an improvement in condition score. Soil and vegetation conditions have measurably declined in many sites, supporting the concept of cumulative damage.

Despite a relatively small number of horses being present on the Bogong High Plains, horse damage is substantial, widespread and expanding. There is unlikely to be a minimum population size that would avoid incremental, ongoing degradation. Adverse impacts on streams, wetlands, soil, vegetation, fauna habitat and catchment condition, with even a small number of feral horses, will continue to increase, compromising the environmental values of what is Victoria’s largest, and arguably most important, alpine treeless region.

References

- Cairns, S. and Robertson, G. (2015) *2014 Survey of Feral Horses (Equus ferus caballus) in the Australian Alps*. Australian Alps Liaison Committee, Canberra.
- Curran, I. (2018) *2018 Aerial Feral Horse Survey Bogong High Plains and Surrounding Valleys*. Parks Victoria, Melbourne.
- Robertson, G., Wright, J., Brown, D., Yuen, K. and Tongway, D. (2015) *An Assessment of Feral Horse Impacts on Treeless Drainage Lines in the Australian Alps*. Australian Alps Liaison Committee, Canberra.



Feral horse dung pile and disturbed wetland, Tin Mines Trail, Pilot Wilderness, Kosciuszko National Park, 2013.

Source: Graeme L. Worboys.