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Flaws in Parks Victoria's Wild Horse Management Plan 22-Dec-2017

P9 of the plan lists several species described as threatened – however several species seem to have *been wrongly classified* in terms of threatened, endangered, critic etc.; for example;

a) Two native species of mammal are potentially at risk from feral horse activity in the Victorian Alps. Habitats of the Smoky Mouse (*Pseudomys fumeus*) and Broad-toothed Rat (*Mastocomys fuscus*) are currently suffering loss and degradation - placing these sentences in sequence, infers that Alpine Wild Horses are causing these native species to suffer loss and degradation. However the Alpine Resort Environmental report 2013-2014 provides a different perspective:

- (there is an) Increase in weed richness around *lodges* and across both *resorts*.
- New weed species are *still being introduced* by equipment/materials, and
- The Broad tooth rat for example is reported in Ski resort reports to have *bounced back* after the 2003 fires and *still increasing* in numbers

b) The Southern Toadlet (*Pseudophryne dendyi*) occurs up to 1700m in elevation, breeds in shallow pools in wet heaths, bogs and fens, but is now becoming harder to locate - this sequence infers that they are harder to locate because Wild Horses have caused the decline, when there is no research provided to show if this inference is true or not.

c) The Alpine Tree Frog (*Litoria verreauxii alpina*), which occupies similar habitats, is critically endangered. This statement is not consistent with the Species Profile and Threats database http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=66669 which states:

- *Litoria verreauxii alpina* is listed as **Vulnerable** (not critically endangered)
- There is no adopted or made Recovery Plan for this species, and that
- No Threat Abatement Plan has been identified as being relevant for this species.

d) The Alpine Water Skink (*Eulamprus kosciuszko*) is listed as endangered. However link <https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:79ddc78d-90c2-4b9e-8dfe-eeb3853e5181> (2017) gives a conservation status of "Null", with distribution areas in several states (NSW, Victoria, QLD) and type locality of Mt. Kosciusko, elevation 5,000 ft (> 1400 m).

e) Highly restricted and threatened invertebrates such as the Alpine and Mount Stirling Stoneflies are also vulnerable to habitat impacts. However the following link explains that http://www.mdfr.org.au/publications/factsheets/images/Thaumatoperla_FactSheet-June-2016.pdf "The lack of knowledge on the species and their populations has meant that developing an understanding of the specific threats to the species has been highly restricted" and "The threats

that have been identified for *Thaumatoperla* are of a more generalised nature for alpine/freshwater organisms and this restricts the ability to manage these threatened species". And "The limited information for both of the *Thaumatoperla* species means there is currently no species recovery plan **therefore threat and management actions cannot be established**". We need robust, data rich research to see how, if at all, Brumbies may be a threat.

P 13 of the plan states that Animals using these trackways can be vectors for weeds and plant and animal diseases, such as tree dieback fungus *Phytophthora*) and frog chytrid fungus. The ABA points out the following important studies:

- a) "human activities" in the 1980s and 1980s link <http://awpc.org.au/bleak-future-for-australian-frogs/> unintentionally introduced the Amphibian Chytrid, then carried it to previously healthy Corroboree frogs as researchers moved from site to site in the Australian Alps see link http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=1915
- b) Healthy Common Eastern Frogs then became a carrier of this disease [Ref-1]; passing it to corroboree frogs they co-habituated with <http://awpc.org.au/bleak-future-for-australian-frogs/>
- c) Along the east coast of Australia, nine species of frog have totally disappeared in the past two decades, and scientists are at a loss to explain why or provide solutions – except for 'human activities' and population growth <http://awpc.org.au/bleak-future-for-australian-frogs/>
- d) The **chemical constituents of horse manure are not toxic to humans**. Horse guts do not contain significant levels of two waterborne pathogens of greatest concern to human health risk, *Cryptosporidium* or *Giardia*, neither do they contain significant amounts of the bacteria *E. coli* 0157:H7 or *Salmonella*. (Adda Quinn 1998)
- e) Severe fires and storms are the greatest mover of soil structures into **streams** (Redfearn, Hadwen, Negus, Blessing, Marshall)

P13 of the plan states "Feral horses impact water quality through streambed disturbance, pugging and streambank collapse" however the ABA points out that;

- a) (Redfearn, Hadwen, Negus, Blessing, Marshall) found "horse trail crossings are a pulse impact on water quality and small numbers (100 passes) have little long term impact" "horse crossings produced an increase in both organic and inorganic sediment, *E. coli*, nitrogen, and phosphorus, but of these, organic and inorganic sediment, and *E. coli* **were also elevated by 4WD crossings**".
- b) Runoff during storms and floods, especially in Parks downstream of pastures and residential areas, was potentially much greater than anything that occurred during the anthropogenic disturbances captured during the (study) events. Redfearn, Hadwen, Negus, Blessing, Marshall)
- c) The 2003 Alpine fires burnt a significant amount of vegetation in the water catchment areas in Gippsland leaving a risk of soil erosion. The fires severely reduced vegetative cover – both pastures and native vegetation – *creating a high risk* for destructive soil erosion [Ref-5].
- d) "Wildfire in 1914 caused little damage, whilst a severe fire in 1925 burnt peat bogs on the high plains and caused severe erosion" and "summer fires were the major cause of soil erosion and loss of timber in the (Alpine) region" and "Severe wildfires in 1978, 1983 and 1988 caused substantial soil erosion" (Vic Jurskis, Paul de Mar (Forests NSW) and Barry Aitchison (NSW Rural Fire Service).

e) Jeffrey Schaffer, wilderness writer, also reported that 700 backpackers contribute about a ton of human waste per week, and in particular that “buried human excrement takes longer (than horse and cattle excrement) to break down.

Plan P14 (Weeds) states “Horse presence and associated impacts can provide opportunity for a variety of introduced plant species to quickly outcompete native species” - however there are many references that show other factors are the *primary spreader of seeds*; such as;

a) http://www.bcha.org/media/uploads/2015/11/13/files/Gower2008_Forest_Ecology_Eastern_US_weeds-horses_full_article.pdf explains that “Seeds are primarily dispersed by gravity, wind, surface water movement, soil erosion, birds, ants, dung beetles and rodents”.

b) In the 1950s and 1960s Scotch or Spanish Broom, Lupins, willows and other exotic trees were Introduced during the building of the Snowy Scheme. While NPWS was not involved in introducing these weeds, a major restoration program treating and removing these species is in place. [NPWS NSW reply to online chat website query 2015]

c) The 2003 and 2006 Alps wildfires burnt over 750 000 ha in national parks and reserves, and post-fire floods caused massive erosion areas, creating vast, bare areas and flushed nutrients from the ash beds or deposited sediment *promoting rapid growth* of many weeds... http://parkweb.vic.gov.au/__data/assets/pdf_file/0009/534096/Invasive20Species1.pdf (Invasive Species discussion paper Greater Alpine National Parks 2010)

d) BullockBullock (2011) conducted a study to identify whether bush walking hikers spread invasive plant seeds on their clothing. He found that “*Scientists know that infrastructure like roads and tracks for tourists help spread weeds around pristine areas, but few studies have looked at how tourists' clothing helps spread weeds' seeds*” [Ref-2].

The study calculated that in just one hiking season “*up to 1.9 million plant seeds could be carried on the (33,000) walkers' socks*”, and that “*2.4 million seeds could attach themselves to the hikers trousers*” [Ref-2]. The five plants that Bullock reviewed in Kosciuszko (Bidgeewidgee, Sheep's sorrel, Sweet vernal grass, Cocksfoot grass and Red fescue grass) are considered problem species that spread in pristine areas and push out native species.

P28 of the plan states “Additional exclusion plots (areas fenced to exclude horses) may also be established to determine how peatlands and streams recover when they cannot be accessed by horses” - however, the ABA points out there are **significant flaws** in the results over a long period of time on “exclusion fencing” that has been used in Australian studies with the intent of showing the damage caused by Brumbies, for example:

a) This problem is best exemplified by the critique of Rogers (1991), offered by Linklater et al. (2000), demonstrating that positioning of horse enclosures can result in impact measurements unrepresentative of the broader system.

b) Past research into the effects of feral horses have typically included:

- only a small number of response variables (Beever et al. 2003),
- measuring direct effects of disturbance on a few plant characteristics,
- ignoring both direct effects on other taxa (Beever and Brussard 2004) and
- indirect effects occurring concurrently and subsequently from the formation of feedback loops (Beever and Herrick 2006).

c) The small number of feral horse studies that have paid credence to the importance of factors such as scale (see Beever and Brussard 2004), feedback loops and indirect effects (see Levin et al. 2002; Beever and Herrick 2006) have been undertaken in semiarid and marshland environments, and hence their applicability to similar disturbances in other ecological systems may be limited.

P11 of the plan claims that horses can damage culturally important (Aboriginal) sites – we ask WHERE is the research to support this position in the Victorian Alps?

Plan p19 says “more horses may need to be removed under adaptive management” - the ABA repeats its KEY concern that until a scientifically robust baseline data is established, it is impossible for Parks Victoria to apply adaptive management changes in an effective way.

P4 of the plan refers to using a strategic and evidence-based approach to protect natural heritage (are Wild Horses artificial?) – WHERE is the robust baseline data to support the claim that Parks Victoria will use in this “strategic and evidence-based approach”.

P4 of the plan also refers to humane and respectful horse management being delivered through effective management programs – To be truly humane, it must reject using aerial or ground shooting of free roaming Brumbies; lower trap numbers to lower the percentage of Brumbies euthanatized on site and use fertility control as well as the trapping option.

Until Parks Victoria establish a robust data baseline the following plan aims are worthless:

- Meet their obligations under the Act and the FGG
- Applying adaptive management
- Determining the extent to which conservation objectives are being met
- Quantify change in the Alpine environment
- Understand the complexities in the alpine region in order to manage effectively
- Identify the right level of (balance) for the protection for our natural environment and pre-European cultural heritage.

Examples of selected information that fails to reflect the true research, such as:

- Parks Victoria presented the papers they claim prove the damage Brumbies do, and added that one of them (Dyring 1990) **is an Oldie but goodie - we’ve used this for many years as one of the foundation studies**. The ABA agrees that Parks Victoria do use Dyring 1990 as a foundation study, we also found that nearly all papers Parks Victoria presented as *evidence* used papers either cited Dyring 1990, or used papers that cited Dyring 1990. This is a key example of selective quoting, because’
- Parks Victoria use Dyring 1990 to prove horse damage but ignore Dyring’s key point that the percentage of **ground impacted by horse tracks is less than 1% of the area studied**. That is: 99.8% of the area studied is not subjected to horse walking tracks.

Australian Brumby Alliance Inc. 15 April 2018

Ref-1: Prevalence of the Amphibian Chytrid Fungus in Populations of Two Frog Species in the Australian Alps; D. Hunter, R. Pietsch, N. Clemann, M. Scroggie, G. Hollis and G. Marantelli.

Ref-2: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=1915