

A large, gnarled tree with a thick trunk and dense green foliage stands in the center of a grassy field. In the background, a winding path leads to a small pond, and the landscape is hilly under a clear blue sky. The foreground is filled with green grass and numerous small white and yellow flowers.

OUR AUSTRALIAN ALPS ARE CHANGING.... FOR THE WORSE

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OUR AUSTRALIAN ALPS ARE CHANGING FOR THE WORSE

This statement was prepared by Graeme L. Worboys, David Freudenberger, Roger B. Good, Ian Pulsford and Sam Banks and is available at www.mountains-wcpa.org

This “Call for Action” *Australian Alps are Changing for the Worse* statement is based on peer reviewed published literature and the collective expertise, experience, active field research and observations of the authors in the Australian Alps protected areas that span a period of more than 50 years. The document is a private statement and responsibility for it rests with the authors.

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Cover photo: The alpine area and Snowy River, Kosciuszko National Park, Australian Alps national parks. Source: Graeme L. Worboys

A photograph of a brown horse standing in a field of tall grass and brush. The horse is facing left and has a white blaze on its forehead. The background is slightly blurred, showing more vegetation and a tree trunk. The text is overlaid at the bottom of the image.

**TOO MANY INTRODUCED
(WILD) HORSES ARE
DEGRADING THE
AUSTRALIAN ALPS ECOLOGY**

INTRODUCTION

The iconic Australian Alps National Parks and Reserves are a National Heritage Listed Place in recognition of their “*outstanding heritage significance for Australia*”. Few Australian natural areas attain this special status and the Alps share their listing with other famous protected areas such as the Great Barrier Reef Marine Park and Uluru–Kata Tjuta, Kakadu and Blue Mountains national parks. The Alps are special because the vast majority of Australia’s alpine and subalpine environments are found there. Relative to the Australian continent, it is very small, and for many Alps species it is the only place in the world where they can exist.

Some of the National Heritage inscription values for the Alps parks include: “*Glacial and periglacial features; fossils; karst features; biological heritage; moth feasting; transhumance grazing; scientific research, water harvesting; and recreation values*”

Many of these heritage listed Alps values are being degraded in 2015 and in particular the *biological* and *water harvesting* values. A non-Australian (introduced) pest animal, the wild horse is causing serious, landscape scale impacts in the Alps and especially to its wetlands and their associated plants and animals. This statement identifies the devastating impact of these wild horses on the Alps fragile wetlands. It shows that Australian heritage values are being lost and the consequent negative implications for the Alps catchments in a climate change world. Through many images and maps, it illustrates the problem at hand.

Because of these wild horse impacts on Australia’s iconic natural heritage and catchments of national economic significance, this statement calls for urgent and effective response actions. Horses in the Alps are the wrong animal in the wrong place. They are seriously impacting our unique Australian animals, plants, and catchments and these species and catchment values are just too precious to lose.

The impacts: Wild horses are just too heavy for Australian alpine environments:

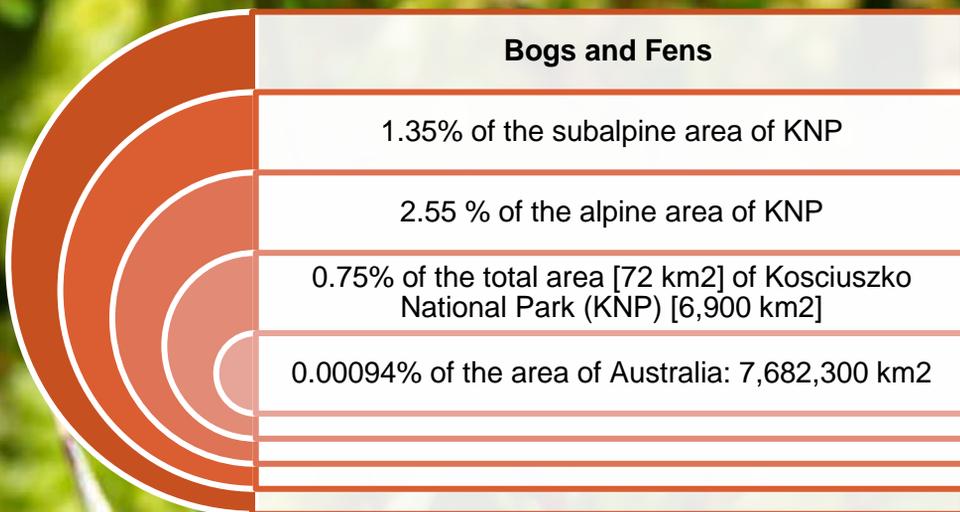


WETLANDS ARE THE MOST BIODIVERSE OF THE ALPS ENVIRONMENTS



The combination of ample water, diverse species and “sweet” grazing pick in wetlands, streams, mires and bogs means that horses target these special areas that are found right across the Alps landscape

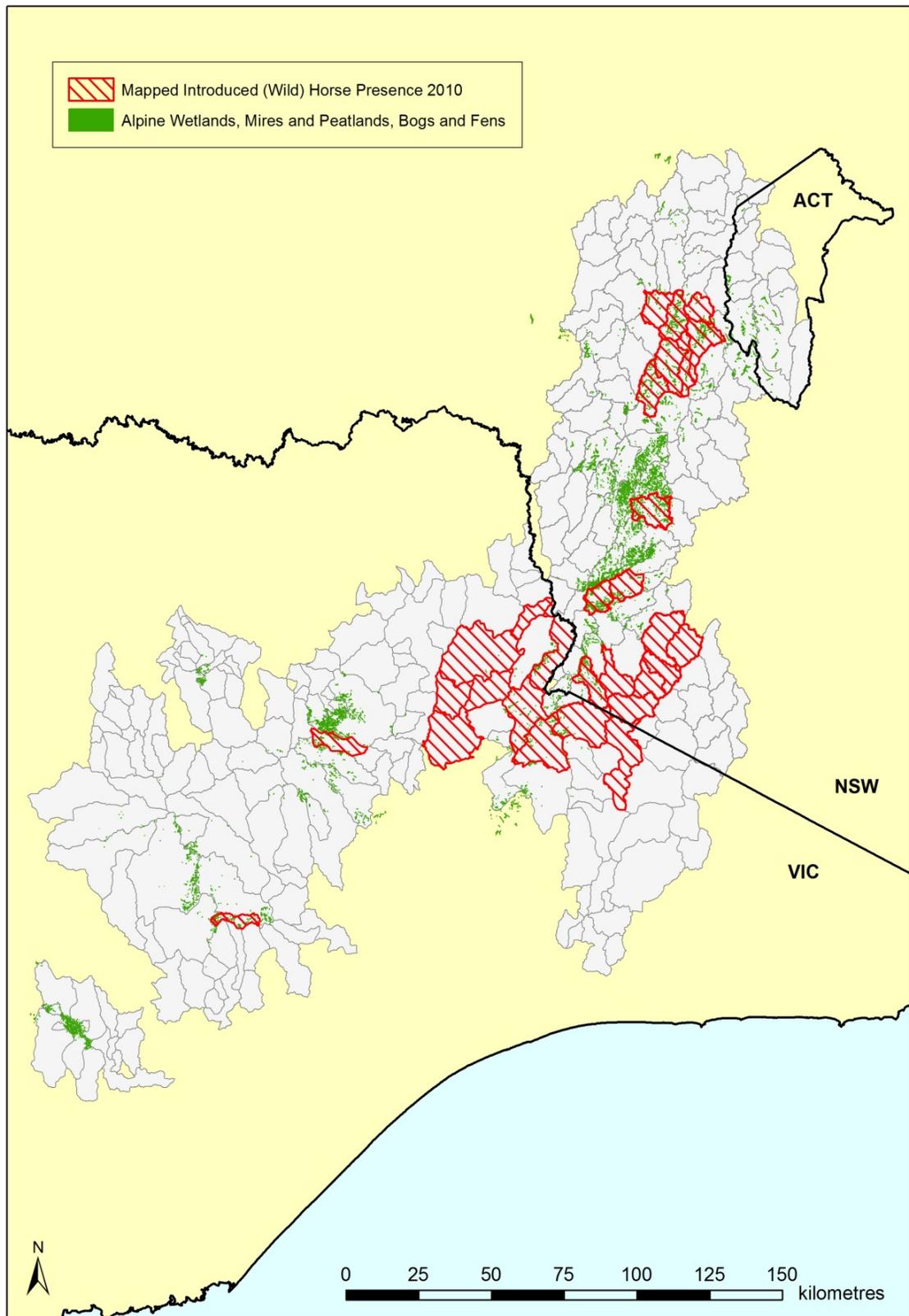
Despite their Alps-wide distribution, these Wetlands, bogs and fens only exist in a very small (total) area of the Alps. They are ecologically rich and include rare species



Wedge Oschatzia (*Oschatzia cuneifolia*). The Australian Alps is the only place in the world where this very rare wetland plant is found

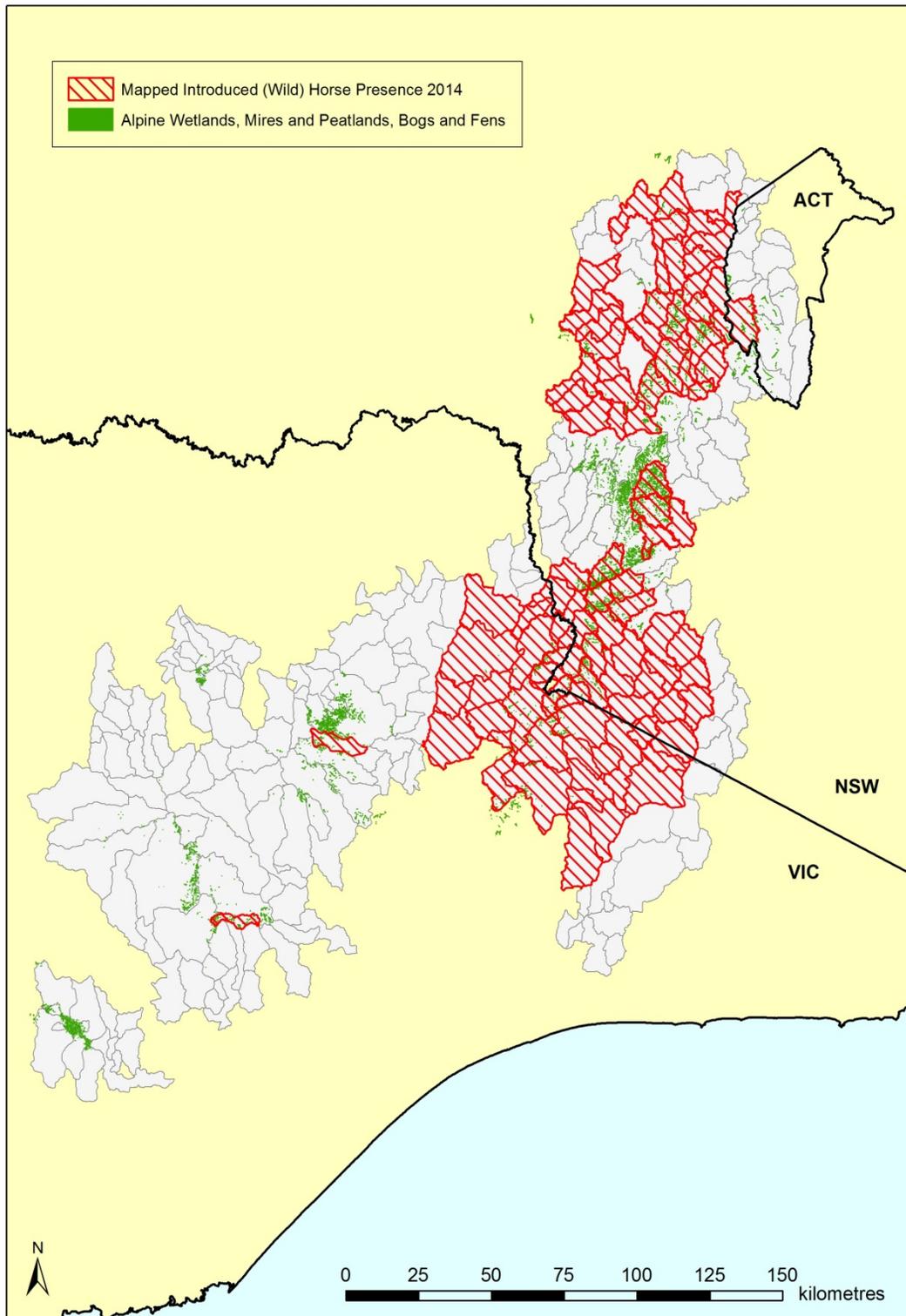
Mapped wetlands across the alps landscapes and wild horse distribution, 2010.

(2010 mapped wild horse presence based on interviews with protected area staff)

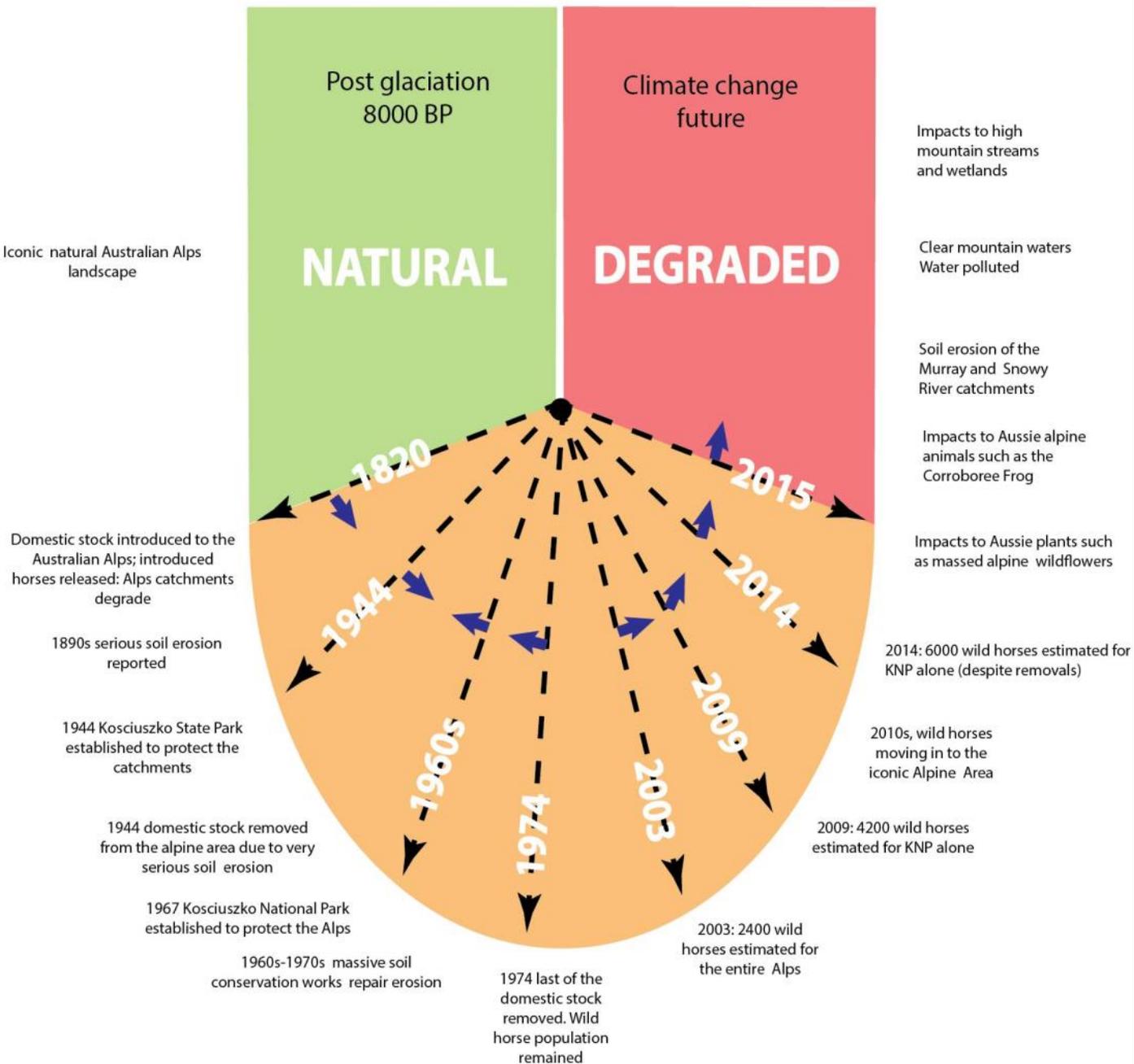


Mapped wetlands across the alps landscapes and wild horse distribution, 2014

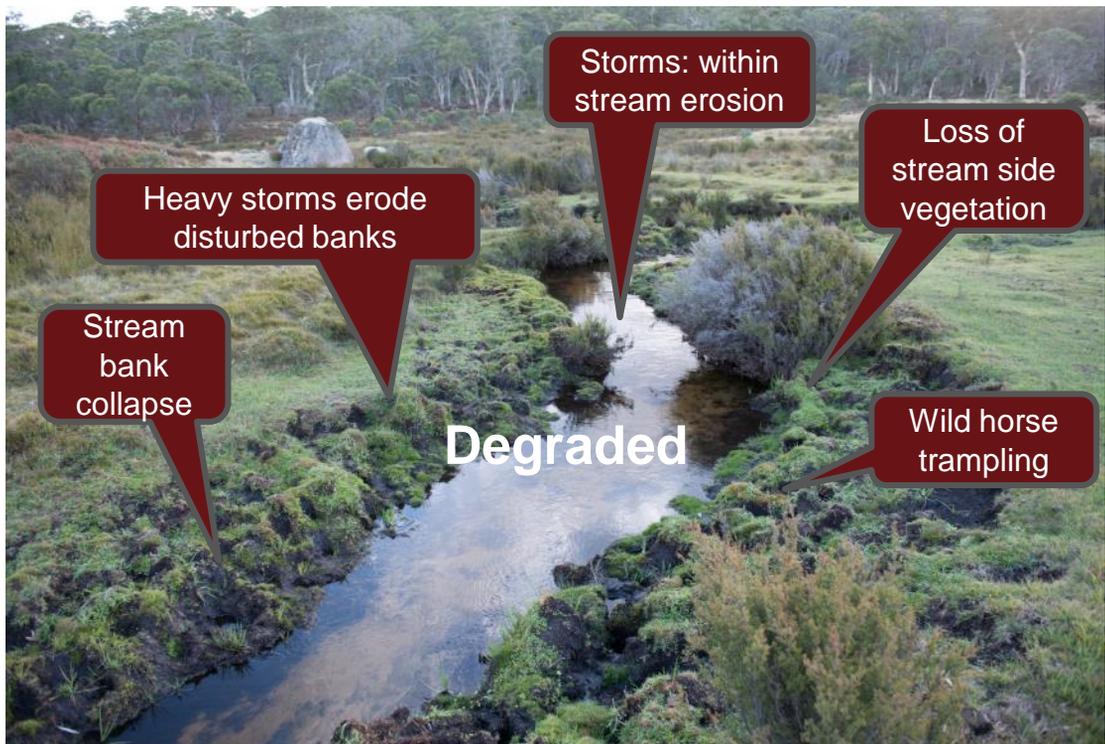
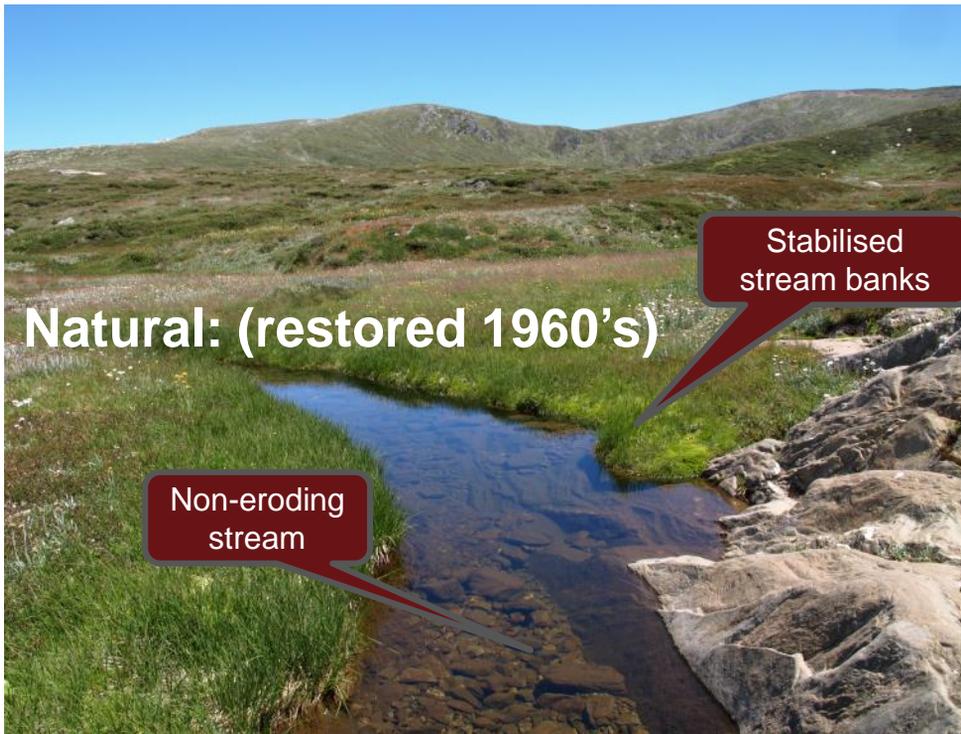
(2014 mapped wild horse presence based on interviews with protected area staff)



Introduced (wild) horses as ecological change agents in the Alps

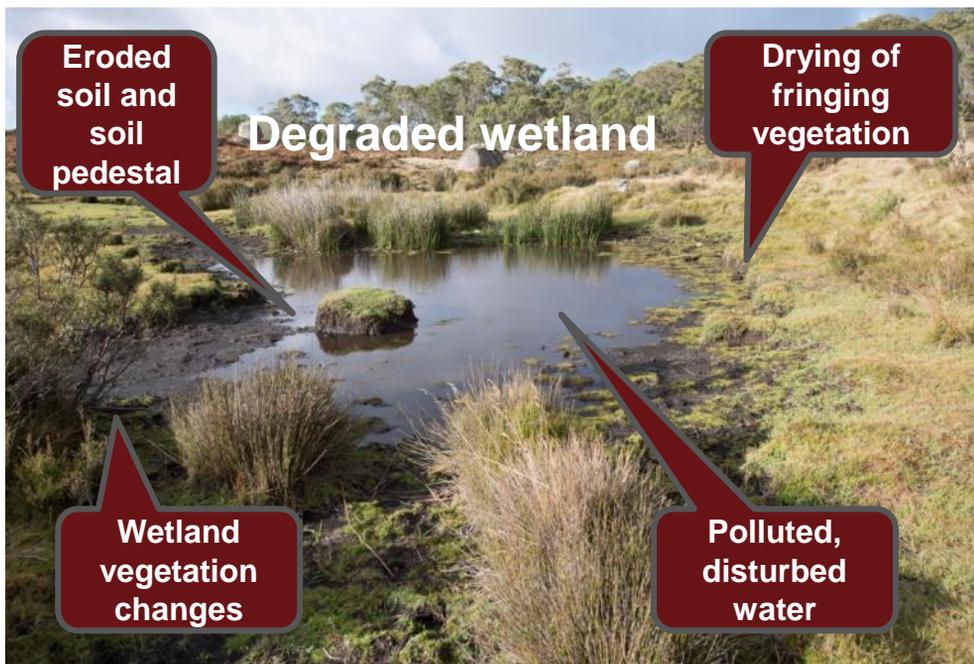
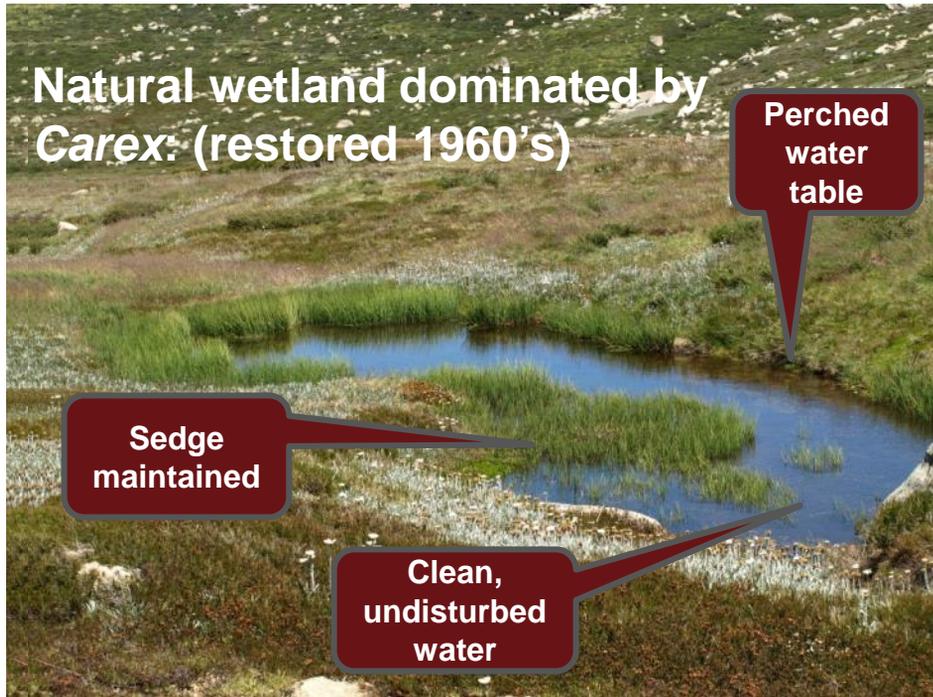


Changes to streams



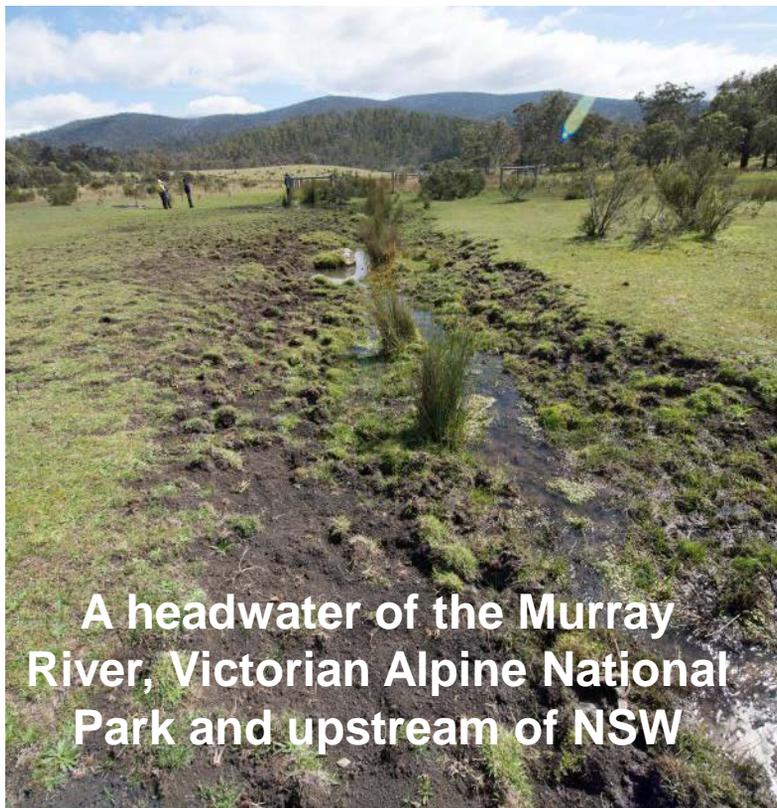
Images, two different Kosciuszko National Park stream locations, one still protected from heavy hoofed animals after 61 years, and the other subjected to increasing numbers of introduced horses

Changes to wetlands



Images, two different Kosciuszko National Park wetland locations, one still protected from heavy hoofed animals after 61 years, and the other subjected to increasing numbers of introduced horses

Changes to famous Australian rivers



Introduced (wild) horse impacts: changes to the Australian Alps Catchments

- **Less water yield in droughts (landscape scale wetland damage)**
- **Less water yield (disturbance and more evaporation)**
- **Severe catchment erosion (during severe storms)**
- **Lower water quality**
- **Greater peak discharge water flows**
- **Less even water flow rates**
- **Greater vulnerability of the catchments to degradation as climate change effects become greater**

NOTE:

The economic value of the Alps water is estimated to be worth about \$9.6 billion per annum

Changes to biodiversity: Australian vegetation



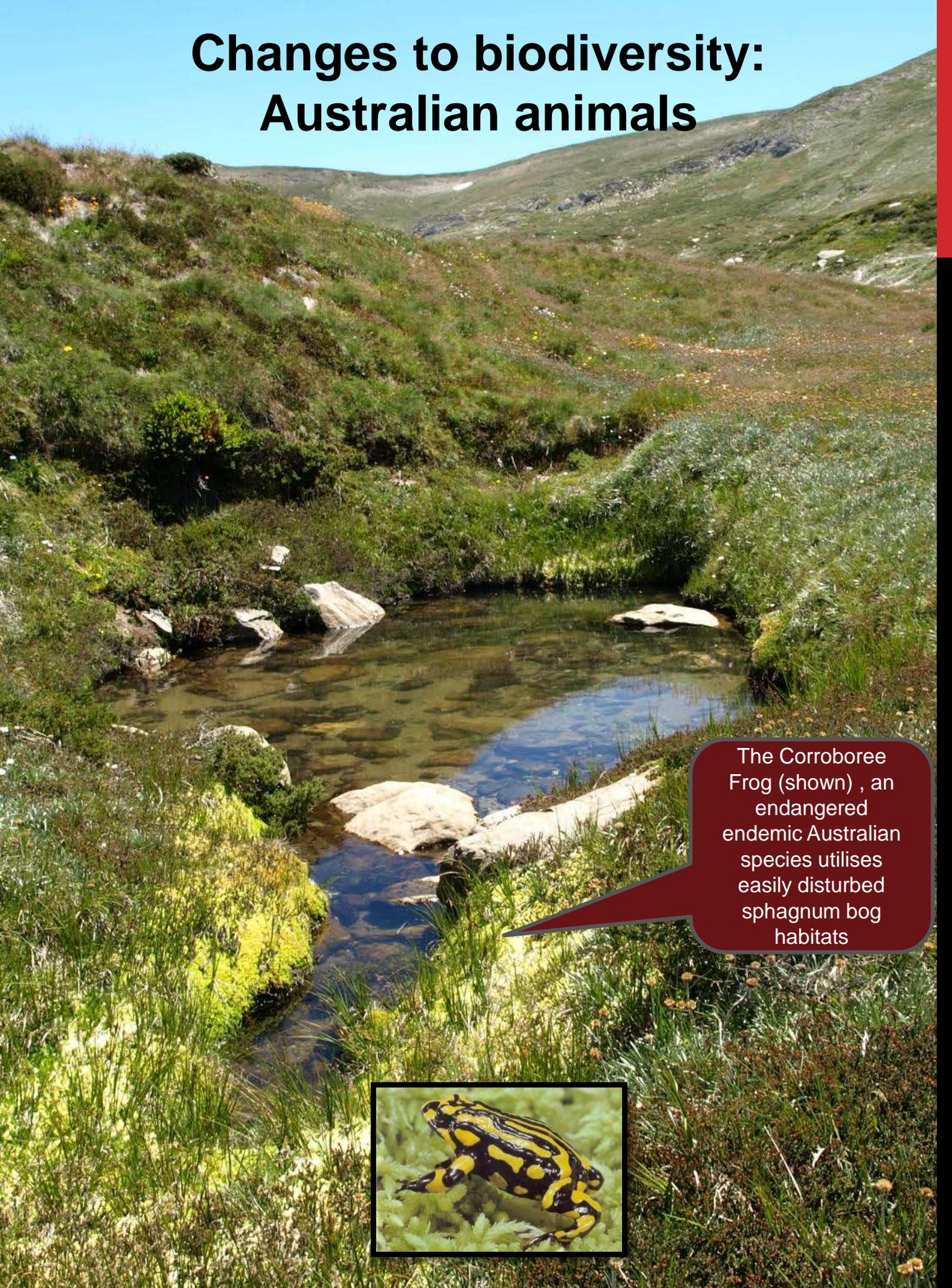
Changes to biodiversity: Australian vegetation



Alpine Sphagnum bogs and associated Fens are an endangered ecological community listed under the Commonwealth Government EPBC Act for their protection

Wetland communities such as this Candle Heath (*Richea continentis*) community are trampled and degraded by wild horses

Changes to biodiversity: Australian animals



The Corroboree Frog (shown) , an endangered endemic Australian species utilises easily disturbed sphagnum bog habitats



Changes to wetlands fire behaviour: trampled wetlands change from fire barrier to fire risk

Key issues:

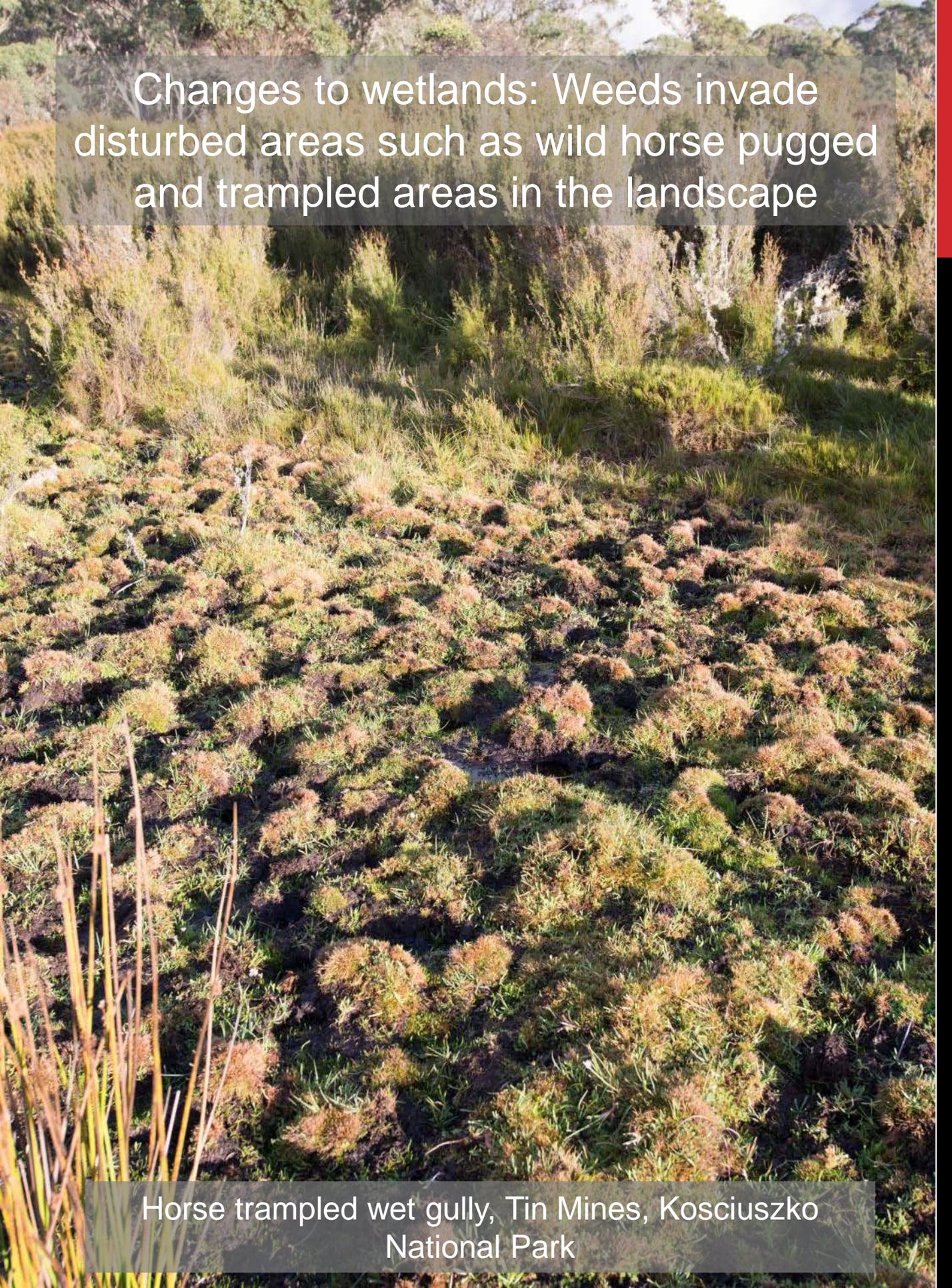
Moist, natural wetlands retain sub-surface water and resist fire

Horses degrade wetland vegetation causing streams to erode and lower the water table

With a lower water table, subsurface wetland peat dries out and becomes more susceptible to fire. Dried peat also means an absence of water in droughts

The dried organic rich peatland becomes a fire hazard

A post-fire burnt Alps wetland with bales of hay used to retain water table levels to encourage regrowth



Changes to wetlands: Weeds invade disturbed areas such as wild horse pugged and trampled areas in the landscape

Horse trampled wet gully, Tin Mines, Kosciuszko National Park

Changes and climate change: Wild horse disturbance can lead to the drying of peatlands and the loss of carbon. Healthy, undisturbed peatlands can sequester carbon

Regrowth in a wild horse enclosure over 14 years

Area subjected to unregulated wild horse grazing

Vegetation recovery in a horse enclosure plot established in 1999, Cowombat Flat, Victorian Alpine National Park

Wild Horse-free healthy wetlands



Ginini swamp wetlands January 2015, part of the ACT water supply catchment, 12 years after the 2003 bushfires. Undisturbed shrubs, tufted sphagnum hummocks and raised water tables help maintain healthy catchment environments, high water quality, reliable water yield and steady water flow regimes for ACT water supplies

Wild horse-free healthy wetlands

Australian “Southern Water Skink(s)” (*Eulamprus tympanum*) basking on post 2003 fire recovered and healthy stream side *Sphagnum* and heath community, Ginini swamp, Cotter River catchment and Canberra water supply source area. (Namadgi National Park, Australian Alps).



Call to Action

The *biodiversity* and *catchment* values of the National Heritage listed Australian Alps national parks are being changed for the worse by too many introduced wild horses. In an environment where nature conservation and ecosystem services (water) are the primary uses of the land, Australian alpine animal and plant species including many not found anywhere else in the world are being impacted.

Wetlands are targeted by wild horses, grazed and trampled, and with water tables lowered, they dry out and die. Exposed dry peat increases fire risk, carbon is lost to the atmosphere and water quality, water flow regimes and water yield are degraded. These impacts are occurring in catchments that are of strategic economic and social importance for the Snowy Hydro-electric Scheme, Murray Darling Basin irrigators, downstream residents (including Adelaide) and Australia's prosperity. Responses to wild horses in the alps, given they are a threat of national significance in this unique environment, have been completely inadequate as of February 2015.

These wild horses, in 2015, are directly impacting the Alps parks Australian National Heritage values, catchment values, and consequently, the downstream economic values dependent on high quality and reliable water yield.

This statement is a call to action for authorities to effectively reduce and control wild horse numbers in the Australian Alps national parks as a basis for protecting these Australian values.

BIBLIOGRAPHY

The following references were sourced in preparing this statement.

Costin, A.B. (1954) *A Study of the Ecosystems of the Monaro Region of New South Wales, with Special Reference to Soil Erosion*, Soil Conservation Service of New South Wales, A.H. Pettifer, Government Printer, NSW

Hope, G., Nanson, R. and Jones, P. (2012) *Peat Forming Bogs and Fens of the Snowy Mountains of NSW*, Technical Report, NSW Office of Environment and Heritage, Sydney

Williams, R., Papst, W., McDougall, K., Mansergh, I., Heinze, D., Carmac, J., Nash, M., Morgan, J. and Hoffmann, A. (2014) 'Alpine Ecosystems' in (eds) Lindenmayer, D., Burns, E., Thurgate, N. and Lowe, A. *Biodiversity and Environmental Change*, Monitoring Challenges and Direction, CSIRO Publishing, Melbourne

Worboys, G.L., Good, R.B. and Spate, A. (2011) *Caring for our Australian Alps Catchments*, Australian Alps Liaison Committee, Canberra

Worboys, G.L. and Pulsford, I. (2013) *Observations of Pest Horse Impacts in the Australian Alps, March 2013*, Available at www.mountains-wcpa.org

Photo credits: Graeme L. Worboys, Ian Pulsford