



Fact Sheet

Horses And The Environment

SUMMARY

False Claims Used By Extremists to Exclude Horses!

There have been many false claims made by representatives of environmental groups, who oppose horse riding in National Parks and other reserve lands, that recreational horse riding causes significant environmental damage. **These claims are not supported by the science.**

In 1999 the NSW Scientific Committee established under the New South Wales Endangered Species legislation concluded that horse riding on identified trails through the proposed Duffy's Forest Endangered Ecological Community, would **NOT** be a threat to the community.

The most frequent claims are that horses cause erosion and pollution, spread weeds, affect the nutrient balance in the native landscape and create user conflict.

These claims have been made to support their ideology and have been unsupported or unsubstantiated, or based upon misquotes from research or quotes taken out of context, or just flawed and biased research by similar minded people. They have repeated the claims so frequently over decades, they have become accepted by some as fact.

Over recent years, recreational horse riders, facing a loss of significant areas and trails, have fought back. Literature reviews alone have exposed the false claims.

The answers to many of the allegations are common sense. For example:-

- Many areas of reserve lands are infested by weeds, yet horses have no access to those areas.
- Where are the fields of oats, barley, corn and Lucerne in these reserve lands?
- Some of the most significant threats to the environment are from weeds not eaten by horses e.g. lantana, blackberries, St. Johns Wort and Scotch Broom being but a few.

To support horse riders' claim that the debate has been all about ideology and personal preferences, there is no better example than that to be found in a submission by one leading anti-horse environmentalist in 1994. Milo Dunphy, on behalf of the Total Environment Centre wrote to the then NSW Minister for the Environment, Chris Harcher and stated:-

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“Parts of the ground’s surface are fouled by horse manure and urine.....Bushes along the track may be wet with horses sweat.....The result is that bush walkers will be displaced by horse riders. They will delete the horse camps from their itineraries and lose the use of some of the most favoured camp sites in the park.”

The results of a survey of its own personnel, conducted by the NSW National Parks & Wildlife Service (NPWS) which are contained in an internal report in 1997, concluded that environmental impacts from recreational horse riding were either none or minor and localized in the 67 reserves surveyed.

The following fact sheets clearly show the claims of the anti horse environmental groups to be false and unsubstantiated.



Fact Sheet

Horses Manure, Pathogens And Bacteria

CLAIM

That Horse Manure poses a threat to humans, by their potential to spread pathogens and bacteria through water and other means.

RESPONSE

Horses do not pose a threat to humans and any risk is less than the potential of humans and native animals.

Science - Human Health

"Recently several credible research papers have been published, which demonstrate conclusively that adult horse guts do not significantly contain either C.parvum or Giardia, the two organisms of greatest human health concern and present in water supplies." (Adda Quinn 2001) and E.Johnson Atwill, E.R. Falkins, M.E. Kabash, 1997.

"Wild animals have substantial rates of C.parvum in their guts significantly higher than found in either humans or horses." (Dr. Rob Atwill of UC Davis/ Tulare)

"While E.coli from a number of species, including humans, can cause intestinal disease under certain conditions, those of equine origin have not been shown to do so." (Doctor Ernest L. Biberstein, D.V.M. PhD. Professor Micro Biology, School of Veterinary Medicine, University of California, Davis U.S.A.).

"Studies from the University of California did not find any evidence of horses shedding the eggs of the internal parasites of Cryptosporidium Parvum or Giardia Duodendis" (Atwill, 1997)

"While E.coli from a number of species, including humans, can cause intestinal disease under certain conditions, those of equine origin have never been shown to do so" (Biberstien, 1978).



Fact Sheet

Horses And Erosion

CLAIM

That horses should be banned from reserve lands because of their potential to create erosion.

RESPONSE

Horses can have an impact on soils, but no more than walkers, bicycles or vehicles on tracks, which are not managed. Impact on tracks and land is more a function of other factors than the mode of use of those tracks.

Science - Existing Tracks

"Horse use per se, is not the single dominant active process occurring on trails. Susceptibility to erosion is rather a function of the biophysical characteristics of a site" (Summer 1980, 1986).

"It has been noted that horses hooves loosen and human feet compact surfaces" (McQuoid-Cook 1987) Suggesting that *"there may be an advantageous canceling out effect with concurrent use by horses and walkers"* (Beavis 2001, *Horse Riding in Selected Forests of South East Queensland* (page 14).

"Geomorphic systems have inherent thresholds relating to soil stability, rainfall, erodability, slope etc. When these thresholds are exceeded, change occurs" (Schumm,1977). This concept has been applied to recreational trails by Kuss (1986), who noted that *"almost any rainstorm or level of use impacts new trails, but that extreme storm events, or very heavy use is needed to initiate change on existing tracks"*.

"Impacts by horses on trails or roads formed for bushfire management and other vehicle use/access are minimal because of surface conditions and construction"(Beavis 2000).

"On the multi use service trails approved for horse riding, there was no observed serious erosion. There was little evidence of off site sediment deposition that could cause serious habitat degradation. There was no observed erosion that would jeopardize the integrity of the eco system associated with the trails" (Sawyer 1999).



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Horses and Weeds

CLAIM

That horses should be banned from reserve lands because they spread weed seeds through their manure, on their hair and with dirt in their hooves.

RESPONSE

Horses are a possible vector of seeds, but no more than by humans carrying seeds on their clothing, foot wear, socks and clothing, camping gear and vehicles with mud on tyre treads and body parts.

Native animals and birds and the natural elements of wind and water are greater vectors.

The seeds likely to be ingested by horses are grass seeds and not seeds of weeds, which pose the greatest threat to our reserve lands. Horses do not consume the principle weed species.

Research

"Vehicles are a significant vector of dispersal of seeds in national parks (Lonsdale and Lane". 1992).

Studies in the Victorian Alps concluded "The discrepancy between the species found established along track verges, but not recorded from manure samples may partly reflect the seasonal nature of weed, seed ingestion, but it is equally probable species were introduced by alternative vectors, such as vehicles" (Weaver and Adams, 1996).

*"Weeds may only colonize under certain soil/water conditions" (Sawyer – 1999)
"and/or only on bare or disturbed sites" (Drying, 1990).*

"Where weeds colonize on tracks, this does not appear to occur at the expense of native species." (Drying, Ibid).

"Review of the available literature suggests that there is no causal link between horses and dispersal/establishment of weeds on national park trails." (Beavis, 2001).

In particular, researchers have not been able to isolate the impacts of horses from other users.

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“The limited field evidence then suggests that horse manure is not a major contributor to the spread of exotic plants in conservation areas”. (Horses for Courses, 1997, NSW NPWS – Conroy and Hart).

Extensive research was undertaken in the Duffys Forest Endangered Ecological Community when listing the area under the New South Wales Threatened Species Legislation. It concluded:-

“There were no areas of weed that could be directly contributed to horse activity. The diffuse nature of the manure appears to be incompatible with seed germination or simply, there are no weed propagules in the manure that are capable of establishing and persisting on these trails” (Sawyer 1999).

Research most often quoted by anti horse groups is R. S. St John – Sweeting and K. A. Morris. This research involved feeding the whole seed to horses, collecting the seeds, which managed to pass through the horses gut from manure and undertaking standard germination tests in hot house conditions. The research showed that whether seeds passed and also survived in a viable state depended upon the type of seed. The percentage of seed ingested and which passed through the horse ranged from 21 percent to 0.9 percent. The viability of the seed, which succeeded in passing through the digestive tract, ranged from 0 percent (Onion Weed) to 90 percent (Balansa Clover).

However, to extrapolate this study to the field to support the claim that horses spread weeds is fundamentally flawed.

- *The germination test was conducted in hot- house conditions, not in the natural environment. In other words, the study did not determine that any feed ever germinated in the natural environment.*
- *Most horses are not fed whole grain as it must be rolled, crushed or steamed to release it's feed value.*
- *If whole grain is fed, it would be the grass grains such as barley, wheat, oats, sunflower, corn etc. Where are the fields of these grasses in the reserve lands?*

The vectoring of seeds on horses hair is no different from the vectoring by bush walkers, rangers and other users in National Parks on the soles of shoes, and other in clothing such as socks, jumpers as well as camping equipment, etc. Nor is it any different of vectoring of seeds in tyre tracks and mud on vehicles.

No more telling is this issue than the plan of management for the Ku-Ring-Gai National Park North of Sydney. This plan of management cited the only weed problem is on tracks and trails far removed from where horses are permitted, but where vehicles and walkers are permitted.



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Horse Manure and Nutrients

CLAIM

Horse manure affects the nutrient balance within soils and water within reserve lands.

RESPONSE

There is no substance to this claim.

Research

There are two aspects of the nutrient issue. Firstly the quantity and availability of the nutrient inputs in question. The second is whether they are distributed in a manner that is likely to have significant detrimental impact on the eco system or those down slope from the nutrient source.

Sawyer investigated the impact of manure on the nutrient levels in the Duffys Forest Endangered Ecological Community.

He found that the manure was scarce in a recognizable form. There were no accumulations of manure recorded in the survey. There was little or no manure more than two or three days old, recognizable.

Sawyer concluded that horse riding is unlikely to alter nutrient budgets in a manner detectable from other trail users.



Fact Sheet

Horses and User Conflict

CLAIM

That there is significant user conflict between other park users and horse riders.

RESPONSE

While some extremists try and make an issue of user conflict, there is no substance to this claim. Hundreds of multi use trails exist throughout Australia. The "rails to trails" concept in Victoria, where old rail corridors have been turned into horse/cycle/walking trails is an example. The Bicentennial National Trail which stretches 5,300 km from Cooktown to Healesville in Victoria, is a multiuse non mechanized trail.

The user conflict claim has been promoted by those who do not want horses in the Australian natural landscape.

Research

"Values which define user perception vary culturally and will be influenced by landscape. Therefore social impacts of use will be locality dependent." (GIBBS, 1993)

A Freedom of Information (FOI) search of NSW National Parks & Wildlife Service records for the period 1997 to 2002 was conducted to gauge the level of conflict involving horse riders and other users in the Kosciusko National Park (KNP). The search revealed that ***there were NO recorded incidents of conflict between horse riders and other park users in Kosciusko National Park, during the period 1997 to 2002 (5 years).*** (Source NSW NPWS FOI Search August 2004)

"Anecdotal evidence gathered over the last ten years has not revealed a single horse rider who has had a negative encounter with other trail users. On the contrary, many horse riders report friendly exchanges."(CROSSLEY, 2004)

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