

<https://www.snowyhydro.com.au/our-scheme/snowy20/approvals/>

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I would like to dedicate this submission to all the committed bushmen that have given their lives variously to caring for Snowy be they black white or brindle. To them we owe a debt of gratitude and we look to understanding where the current management of Snowy *has to change* if we want their legacy to persist and restored before Snowy water is something we *once had*. Their biodiversity conservation achievement far better than current in terms of species abundance, complexity and wide distribution, kept fire safe and interdependent with reliable water yield and quality. The “do nothing wilderness” concept unacceptable, unprecedented and unsustainable. Can the Murray afford 190-200GL of 8470GL storage water capacity, quarantined for peak power investors? \$3200M worth of the publics water tied up on call. 2100GL pa provided for irrigation. \$4200M on farm, value added \$33.6+B. 10GL dumped tailings in dams another \$160M removed in food and domestic water capacity and no one affected consulted.

Canberra demands peak power and NSW jumps. ACT green lobby within public sector do the manipulating. ‘Environmental flows’ to keep their toilet disposal cheap 40+ tonnes a day salt licence maintained with ‘environmental flows’ to dilute what is unacceptable to clean and recycle but acceptable to dilute for down stream farms fisheries and communities???? Ice, pharmaceuticals, antidepressants, antibiotics, carcinogens..... Down the dunny, down the gutters, down the lake, down the river, evaporate in the lower lakes ‘*Dead sea down under*’ flush out the Murray Mouth to join the microplastics of Adelaide Melbourne Hobart Sydney Brisbane the world. Shoot the Brumby that built and defended modern Australia to search the globe for renewable alternate energies ‘carbon neutral’ sustainable???? For 8000+ years horses, donkey, bullocks, camel, water buffalo..... have done just that.

The Snowy has been a ‘Clayton’s salvation’ Costin the nation its water, food, conservation security, and where it has been fitting to have had a ‘boiler maker Bill McKell’ the NSW Premier to set up the process for Snowy to repeatedly burn and expertly having accumulated maximal and unprecedented fuel, connected tree root to canopy over vast areas similarly. In effect biodiversity provided one very hot fire history. Expert over burners. Boil the billy replaced by ‘boiling the catchment.’ McKell and his trout fishing mate Clayton using ‘Snowy water’ as bait to buy Murrumbidgee irrigators votes for his office, NSW Premier then Governor General. Set in train the Soil Con bonfires 2003-9 and stoked 1944+, by mindlessly installing American park policies of “naturalised” purpose built designer dingo no graze instrument, no logging thinning, no cool fire delivered with more layers of industrial strength fire suppression, to build the bonfire higher, wider. 1956-2003 about 620 natural fires quashed by gadgetry. No smoke to upset the tourist trade. Boffins on holiday, when aren’t they?

Parked to lose the fire safe optimally spaced biodiverse water sharing vegetation and the people that tended it.

Packs of dogs harboured to destroy the grazers as wildlife, stockmen recovered and the domestic mowers sheep cattle horses to augment that fire safe vegetation management. The acclimatisation societies deer which with free living goats assist with blackberry and scrub control to maintain some stream flow, bank rounding to stabilise fire safe green gully ecologies and an apron to deliver water quality.

Soil Con staffers drawn from urban, three year trained city university backgrounds looked to drown live vibrant fire safe ground cover to be overcome with dead tussock, piles of toxic litter, tangles of fallen logs and impenetrable, flammable scrub heading towards monoculture, holocaust and water crisis in the process of being delivered in full, today. Park water catchment policies failing to secure water, public safety or community conservation achievement here or North America, with or without rabbit plague. Plague for Australia 1860-1960+ sending dingo impact on wildlife and ecology into new orbits. Mysteriously dogs reappeared and were shifted '*noxious to naturalised*' 1966+, grazing finally banished 1969 driving ecological change to 'over vegetation' and water yield loss. This management change now deceitfully misrepresented as "climate change."

Any climate change effects are insignificant compared to the consequences of management negligence.

Political hopefuls, dam builders and arts law legislators have been drawn into matters of fundamental land management they had neither experience or skills in and on which to base their strong opinions on. Knowledge to confuse their fanaticism.

Follow blindly along the failed North American line of "*evangelical ignorance and indecision.*" Pity about Australia's dry, arguably hotter climate and more volatile fire interdependent vegetation demanding active timely fire not 100 year holocaust boom and bust, drought summer extreme mass extinction events. Adelaide to Cook Town obliterating the nation's rain or water indefinitely. This view not alarmist as much well researched and informed. Locking up 3000k of the eastern ranges to go to the dogs and brew the bonfire is reaching culpability proportions be it under the pretext of international treaty signed off on Australia's behalf without consultation shrouded by more bureaucratic zeal and ignorance. Bushwalking club academia. Kyoto has been an ecological disaster to exceed the rabbit plague. Its impact and interpretation not fully realised yet as spot fires link across Australia with the land use wilderness approach. Adoption of the rainforest goblins model. "*No burn rainforest will return*" 26+M years after it began receding in response to erratic rainfall dry and increasing fire incidence, continental drift, Great Southern Ocean current, elevation of New Guinea highlands Folding up of the great dividing ranges, Murray basin water cycle.

Australia has had a number of insults and adjustments over the last few 1000 years. Mega fauna loss, human habitation Aboriginal fire regimes taking on mega fauna status, arrival of dingo then cat, to colonial disruption, restoration of mega fauna ecoservices, release of fashion fur rabbit plague, and fox, gold rush pig, acclimatisation societies trout,

deer, blackberry, briar, blind adoption of the American model for Soil Conservation water catchment and park. Dehabited wilderness concepts failing, there and here, to deliver water security or retain biodiversity. Ignoring the fact that *without genuine active involvement of committed stable trusted 'local communities' neither water supply or conservation will be delivered short or long term.* This an internationally recognised principle.

The Snowy Scheme poorly handled and poorly timed. That legacy lives on at a cost ecologically, socially and with implications, economically. Australia has lost its capacity to effectively manage fire risk and the Snowy experience top and centre of how it happened. Industrial strength fire suppression, dead ground cover, starved soil is disastrous especially in the wake of rabbit plague disruption (1860-1960+) of soil and vegetation. Road to ruin for the nations water security and where a functional biodiversity, imperative to cost effectively retain relationships between soil health, water harvest from passing cloud, water sharing ground and surface water and so on. Bogs do not make water. Dry dead flammable bogs are a symptom of failure and disfunction. Climate change the result not cause. Snowy 1 failing because land management ignored, Snowy 2, 3, 4 endure the same failure same reasons greater magnitude. No rain snow run off water no hydro. No underground water, no bogs.

What has been studiously ignored even though it has been known about since the 1820s by Europeans and recorded in Aboriginal art and oral mythology, is our rich and imperative mega fauna history required to ease Australia's transition from Antarctic rainforest to midlatitude dry and fire prone /adapted ecology. Moderate fire to beneficial intensities and deliver food and product to the ecology. Antarctic to midlatitudes a significant climate change, to water sharing fire safe shaped vegetation. 45M years ago Australia finally broke away from Antarctica after ripping apart from about 70Mya (million years ago). Climate changed to arid fire prone beginning 26Mya. Big koala moved out of the receding rainforest in drying lake beds to forage and led to a class of wombat species to 3 tonne each (small elephant scale) powerful browsers, bulldozers, wallowers, burrows, tree rippers, migratory herds nutrient cyclers seed dispersers. Creators of habitat. Most importantly fire risk mitigators such rainforest vegetation could rekindle fire adaptation genes.

To go back further in history Australia was sitting WA on the equator, EA 30'N and under tropical seas 510Mya before plant life on land began and the limestone reefs were being made to produce Blue Water Holes and Yarrangobilly, Lobbs Hole, Burrenjack limestone fossil beds of lung fish, seashells.... underground streams etc. of today. Caves.....510+Mya. By 370Mya, Australia heading south rapidly assumed current orientation and position as the first forests appeared in wet areas only as fire appeared from 410Mya, the other part of the fire trilogy, atmospheric oxygen 420Mya was 2% (not 21% of today or 30+% of 275Mya. 30+% fire unstoppable until fuel exhausted, no plants no fuel, even soil humus biochar is plant origin)

Current thinking suggests ***plants were confined to wet areas until the evolution of big animals to facilitate spacing of dryland vegetation in a fire safe manner.*** Suffice that plants can recover and adapt to cool fire and variable water availability, water sharing. When the big animal class goes extinct or disappears locally, generally or becomes insufficient for the task of fire fighting and allied ecoservices of nutrient cycling, seed, spore, soil biota

translocation..... then mass extinction species loss accelerates until another big animal class emerges to rescue chaos, restore balance and harmony. Achieve expansion of biodiversity and speciation again. Does this ring true to processes in progress since destocking dehabitation promotion of dingo rabbit over humanity, the '*biodiversity regulator*' pre and post dingo arrival on the mainland. 3500 years before the fecund rabbit arrived. The work of 5-7 doe rabbits survives a dog while it exterminates bandicoot, bettong, potoroo, hare wallaby, wallaby, roos, echidna, platypus, koala, wombats, possum etc. as never before possible. In sufficient populations, these small species provide essential ecoservices of fungi redistribution, post fire seed dispersal and so on not just feed and breed killer dogs.

It would appear intense damaging fire in 'over growth' large area is the extinction agent when the big animal class disappears or dies out.

Repeated fire in dysfunctional regrowth and or heat sterilisation ends the ecology, soil, hydrology, forests as has taken millions of years to evolve. And will take millions to recover. Reevolve. Species function and ecological process more important than specific species or the shape their feet are in or ethnic origin. When you mow the lawn does it really matter the brand of mower, slasher, chain saw? In other words fire safe spacing, achieved no matter how and independent of method. Mammal like reptile class then dinosaur, then giant mammals, in Australia's case marsupial, then proactive indigenous cool fire, and or selective logging, wildlife recovery, made possible by livestock grazing, slashing, mowing, grinding are all options to *deliver ideal, open spaced fire safe, water sharing vegetation*, able to ride through major swings in seasons and climate extremes. Polar melts, volcanic cataclysm.....

The "do nothing" abdication of responsibility for industrial strength fire suppression of dehabited, destocked pack dog infested man made wilderness is bonfire building without peer. Very effective in delivering a depreciating water harvest and the very biodiversity (including human knowledge experience and observation) that facilitated reliability and quality of water has too been squandered. Do we call it arrogance of colonialism?

The number of small fires since the big 1939 formative fire no graze no cool fire policy of Federation drought and rabbits brewed from Boer war (1898-1902) World wars I & II (1914-8, 1939-45). Depression 1929-39, 1950s Korean and Vietnam wars and more drought. Fire challenges. Rabbits took advantage of the work force away at war, by digging up vegetation and soil across southern Australia for widespread water and wind erosion. Stream sedimentation. By 1922 there were an estimated 10 billion rabbits digging up southern Australia which equates to 1 billion sheep or 100 million cattle. At best Australia has run 180M sheep and 30M cattle. Stockmen and their sheep funded the reeling in of that plague to an estimated 600M by the war drought of 1939-45. Wool funded trap, fence, poison retrieve what vegetation and soil that could be. Recover soil health to deliver quality water to the streams. Yes, soil cons staffers ill informed rote (study tours to N America, Europe..) advice to *destock and starve the soils of the Snowy* has been a disaster for water security,

food and biodiversity security. Turn their backs on 100000 years of local experience and knowledge assimilated for 150+ years of settlement and progress.

Rabbits arrived in the mountains in about 1913 and stockmen funded fencing, trapping, poisoning programs, research programs for biological control, wool levies from 1935. Built CSIRO, universities facilities, bought and manned research stations, government departments for many decades. Foxes, cats, wild dog populations zoomed into new orbits exterminating wildlife as never before possible aided by the goldrush pig. Rabbits feed dogs, foxes, cats, that then kill wildlife, dog kills feed and breed foxes and pigs that eat fungi, frogs, lizards, orchid corms, grass roots, wildflower tap roots..... Rabbits ringbark, dig up, stay around their warrens to 'over graze' in their millions. Burrows collapse entire hillsides and gullies disappear. Someone saw sheep so blamed them "*not funding enough rabbit control over grazing?*" Soil con funded by sheep and wool so media primed the 'fund pump' to create post war careers on the sheep's back. Recruit new migrants to the anti farmer cause. Snowy soil con, bare earth studies blamed sheep for causing 1939 fire scorch and rabbits where they got away from families short staffed by providing soldiers, horses wool clips for France, Middle East, New Guinea, border patrol..... Steel fencing by the ship load redeployed from rabbit control to trench warfare around the world. Continues in official reports the myth and misrepresentation as Snowy sails like the Titanic as the band plays louder, icebergs bigger more frequent.

Dressed in rags families dealt with another rabbit drought grew food fibre for the war effort (1939-45). Grazing banished above treeline 1944 by a two man committee having a ride around between Darwin being bombed and trout fishing high country holidays inspecting fire impact that could be achieved after a few years of low sheep numbers and no burn policies in the Hume Weir catchment. A 'spiced up' government commissioned report or two 'ostensibly scientific,' to attract rehabilitation, dehabitation, salvation funding. Post war careers. Rainforest goblins trained in Europe denied '*lightening could light bushfire,*' (at 30000'C???) blown into record tinder accumulations, poured more scorn on rural communities so creating media myths and villains among a large urban population and migrant intake (7M since 1949). This persists and gets in the way of putting the tram back on the track or a sober competent watch on the bridge of the Titanic the "unsinkable ship." Maiden voyage or not.

1949 we had the Murray basin commission move upstream from Burrenjuck, Hume, Cotter, to 16 dams tunnels canals drowned communities welcomed home from war by the news they were declared "*exploitive over grazers*" ecological heretics and to have your farms, towns, livelihoods drowned. Post traumatic stress syndrome national gratitude is dealt with by public vilification and dispossession in a large part dealt out by the stay at home precious lot, manic about dividing up the spoils for two generations attending the wars to end wars. Decades of hate persists among the displacers. Manic no grazers viewing the alps from their ski resorts, university chairs and wildflower museums. How the grazing era caused ruin of Carruthers as underground streams surfaced in hot burn, 1939 fire, sheet erosion, the Soil Con bog, the Horror bog, how our fearless leaders patched up quarries, power lines, 1600k road and cuttings, Snowy camp sites "grazing impact" 1956-79 for \$790000.

2003-6 just 130 bogs were rehabilitated of near 100% impacted by fires, \$2.6M spent, out of most bogs burnt by experts plying the no graze 1969+, no traditional cool fire 1986+ policies. Bogs that survived did so on viable grazed green Brumby and cattle runs Upper Murrumbidgee, Snowy Plain and remaining and active leases on Bogong High Plains. An estimated \$15+M damage to bogs and 70++ years to recover if ever. Sphagnum and other plant material transplanted from the grazed green runs to rehabilitate the incinerated destocked areas. Scientific reward for bad advice and policies. 8500ha out of about 3-4M, parked and burnt Canberra to Melbourne....Snow gum, mountain plum pine, alpine ash ecologies made fire safe to at least recover to functional water sharing and fire safe entities incinerated as never before possible and many showing little or no capacity to recover decades on.

Ignored is, if ever rain and snow returns to the vastness of burnt sticks or dysfunctional regrowth shocked into as only holocaust could achieve. Mulch 10+T/ha is supposed to “starve the grazers,” kill live ground cover, collapse entire ecologies and “suppress the weeds” including flammable blackberry choking streams where once sheep and wallaby opposed woody weeds assisting lessees pest species control as ‘in kind’ contribution for access to grass to provide wool, meat, export earning or small time logging, thinnings forest products building rabbit control fences railways, bridges, city housing, packaging, paper for academia and parliament..... Passive do nothing management approach.

Grass removal and forest thinning duplicating as proven effective fire hazard reduction, enhancement of biodiversity and water catchment maintenance. Water sharing. Cost recovery conservation. Public and community service. National and community pride. How dare it publicly portrayed as “exploitive damaging impact” by the gougers that have followed. No rates, no up keep obligations, just bonfire building and suggest it “climate change.” Result, not cause.

The following is the standard diet of bog boffin propaganda. Fiddling while Rome burns. Standing in a sea of canopy burn looking into their bogs, dried and burnt first time so expertly in 1000s of years, all mismanagement.

“The peatlands have been badly affected by cattle grazing and fire since European settlement of the region commenced in 1823. (*proof or subjective opinion??No baseline data. Evidence? Not supported by international objective thinking and observation Africa Americas Europe big animal coevolution*) Some recovery is evident within protected areas but serious fires in 2003 reversed this process in many areas.”

“.....9120 individual peatlands in the Snowy Mountains region total 7985 ha, of which 6037 ha is in Kosciuszko National Park, 556 ha in the ACT, and 1392 ha in other reserves or on leasehold or freehold land.”

“...3656 ha of Sphagnum shrub bog in Kosciuszko National Park can be compared to the 2713 ha of bog in alpine Victoria and the 2865 ha of Sphagnum moss communities that occur above 800 m in Tasmania.”

“The Snowy Mountains bogs and fens preserve 49 million cubic metres of peat, of which 27.1 million cubic metres is in bogs and moorlands and 21.9 million cubic metres is in sedge fen. The estimated total carbon store is 3.55 million tonnes. (national emissions 602Mt CO₂e

2006, bogs would not cover helicopter av gas used looking at them) Measuring peat growth over the past 100 years shows that the historical carbon sequestration rate is only **4950 t** C/year for the entire peat estate. This net carbon storage rate of 0.8 to 1.6 t C/ha/year is comparable to the rates found in temperate mires in other parts of the world. Peat sections covering the last 3000 to 4000 years indicate that the millennial-scale rate of long-term storage is **2340 t** C/year (53% of the historical rate); part of this lower net rate may represent losses caused by grazing and fire.”

(or restored mega fauna nutrient cycle 1788+, mow fire safe breaks, encourage water sharing security by combining mega fauna and Aboriginal proactive cool burn regimes, gadget fire removal until the experts big unstoppable bonfires)

“...mapped approximately 8250 individual mires (with an extent of 7438 ha above 700 m) in the Snowy Mountains region” pg1

“...January 2003 bushfires over the period February to March 2003. The advantage of using the post-fire imagery is that burnt Sphagnum shrub bog shows up clearly and the lack of tree or shrub canopy reveals many bog areas that would have been concealed before the fires. A concurrent disadvantage is the difficulty in separating burnt fens from surrounding tussock grasslands.” Pg14

- In some areas, the fire completely removed the vegetation, allowing unimpeded inspection of the colour and texture of the ground surface.
- Some peatland vegetation, especially Sphagnum, burned to a reasonably distinct yellow- orange, thus facilitating identification.
- Conversely, in other areas the fire had blackened areas into a uniform texture and colour, making identification of vegetation and accurate delineation of peat areas a difficult task. “

<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Types-of-protected-areas/peat-forming-bogs-and-fens-snowy-mountains-technical-report-120257.pdf> (Hope 2012)

RESULTS OF MAPPING

Distribution of bogs and fens in southern NSW

Mire size

In the montane and subalpine regions of southern NSW and the ACT, mires total about 8000 ha, of which 6000 ha occurs in Kosciuszko National Park. The three *Sphagnum* shrub bog communities account for about two-thirds of the mires and half of this area. Table 3 and Figure 2 show that many of the mires, and especially the shrub bogs, are very small (though in many cases contributing to a larger mire complex), with over 70% being less than 0.5 ha (5000 m²). Excluding the ACT, only nine shrub bogs are bigger than 20 ha, and the average size of those larger than 0.5 ha is 2.16 ha (median 1.10 ha).

Table 3. Peatland shapefiles and cumulative areas for all mires and for three types of *Sphagnum* shrub bog in the Snowy Mountains region, including the ACT and Brindabella Ranges. Figures from other states are not calculated on the same basis but should be comparable. Victorian figures (Lawrence *et al.* 2009) are mainly for subalpine shrub bog; Tasmanian data (J. Whinam, Tas. DPIPWE 2010, pers. comm.) include all *Sphagnum*-dominated communities, including herbfields, some of which are not found on the mainland.

Size (ha)	All peatlands			<i>Sphagnum</i> bogs	
	Number	Cumulative	Area (ha)	Number	Area (ha)
0.001–0.25	5058	55.5	510.2	3670	361.9
0.25–0.5	1516	72.1	536.9	1051	369.3
0.5–1	1058	83.7	744.8	708	494.8
1–5	1186	96.7	2477.4	709	1465.4
>5	303	100	3717.3	143	1437.0
All	9121		7986.7	6299	4130.8
Kosciuszko NP	7336		6037.0	5455	3655.6
ACT mountains	844		555.6	490	190.3
Victoria >1000 m	2377		2713		
Tasmania >800 m				757	2865

The total area of all peatlands in the Australian Alps above 1000 m, excluding *Carex* fens larger than 0.5 ha, is 8300 ha (ACT, NSW and Victoria combined). This is 60% more than the estimate of 5200 ha made for *Sphagnum* shrub bog by Alec Costin (1954) and Grover *et al.* (2005). This increase can largely be attributed to the detailed mapping and area calculation made possible by GIS techniques, and to the inclusion of *Empodisma* moor as a marginal mire type that occupies shallow peats.

The largest mires are montane and subalpine *Carex* fens, with 16 in the region exceeding 20 ha (average 43.9 ha). The most extensive fen is Mosquito Creek in northern Kosciuszko NP, at 160 ha (Figure 1m). However, the average size of those fens over 0.5 ha is nearly the same as for shrub bogs at 2.24 ha (median 0.73 ha), indicating that numerous small stands of fen also occur.

Our multicultural bushmen that have acted more recently as stockmen, soldiers, volunteer fire fighters, are disgusted their family and community pleas on behalf of our once beautiful Snowy have been belligerently ignored for decades such the alps, Canberra suburbs to Melbourne suburbs, have been incinerated with record fuel 'conserved and saved' for decades ready waiting for the inevitable drought summer to torch the forests as never before possible. Declared accident? These fire killed, dead and deformed forests that once attracted and delivered 13100+ giga litres average annual water yield depreciated to 9600GL or less in fact or effect. *Why was the Murray basin reformed and excised, the head waters from the process?* Water not available for irrigators including new investment

projects such as Hay Plain cotton, land use change Kyoto almonds, environmental flows to flush Canberra's toilet and salt burden, out the Murray mouth, Burrenjuck settling and holding pond, Lower Lakes barraged evaporative dam doubling as the Dead Sea down under. Snowy stockmen well aware of the state of their traditional winter runs Riverina, Hay Plain, shearing droving rabbiting, back to Snowy for summer feed water, crutching, fencing and rabbiting. Cool burn as required after the big mobs tramped spaced as had been done for millions of years. The wildflowers seed pelleted in rich dung protected for over wintering, resown fertilised, rolled in beneficial biota mycorrhizal fungi, nitrogen fixing bacteria, set for success ready to thrive in the spring and did until 1969.

100 year celebration of wilderness demigod John Muir took a *one eyed look* at his wilderness claims of Sierra Nevada created by Indian cool burns, Bighorn native sheep before these sheep eaten for the 1848+ Californian gold rush. Land now locked up parked engineered hydro and burning repeatedly. Muir derided the Indians, and sheep as a "*threat to wilderness hooved ground locusts...he'd rather drove a pack of wolves.*" Muir came to Australia 1903 looking for wilderness recruits in the dust bowl height of the fashion fur Federation rabbit drought 1898-1903. He visited Ottaways Vic & Blue Mts.

In stark contrast 1944+ the vegetation committed to stagnate brew scrub, dead litter ready to stoke not only the flats, forests but blow rank alpine bogs into the stratosphere. 400-1000+ year old snow gum, mountain plum pine, alpine ash specimens, 12000-3000 year old peat, RAMSAR sites, National Heritage declarations at the public's expense. ***Fly over and audit the burnt bogs!*** What a disgrace! Costin's 5200ha of bogs said ruined by '*the grazing era*' went to 8300 ha surviving thriving until incinerated 2003-9. 60% extra as a burn out bonus. All ruined by stock it was claimed with such authority and without peer review until 60 years of unwise policy imposters. Will the community get an apology or retraction. No one cares either about the quarries, 1600k roads, shaved ski runs, bike and 4WD ruts, resorts, sewage, gold diggings tailings a tourist drawcard. Pig roots ploughing up streams, orchid corms, blame the Brumby???? The designer naturalised dingo destroying wildlife recovered by stockmen and subsequently massacred and starved deliberately.

Bogs made near 100% fire safe to 1969 even during heat wave fires of 1939 challenge, grazed and cool burnt around for the Australian people for no tax payer liability, rates and taxes, product (food fibre water, free tourist access where snow sports began 1850s+) provided. Kosciuszko hotel 1909-1951 just one of the community facilities, plus Yarrangobilly house built (1901-17). Caves, limestone dated 440My old. Likely 510+M on current thinking. Local community dispossessed from the 1940s.

Will Yarrangobilly house, thermal pool, Blue waterhole, regional hydrology stand another 3 Snowy projects? Power lines, tunnels, roads, traffic, stream disruption, quarries, blasting undermining, dumping of 10+M m3 tailing to add to erosion of storage capacity and water quality of water in Tantangra and Talbingo, (Jounama and Blowering?) Tumut and Murrumbidgee rivers, likely Eucumbene also affected by siltation. Snowy 1 & 2 impacts make the vilification of stockman's activities and that of a few Brumby, confirmed another media, departmental, academic beat up. Bullying for a fast dollar and subsidised by the paying public excluded from any decision making how national assets are managed or not. Squandered misrepresented unrelenting for decades. Reiterated on 'shakey'

unsubstantiated grounds imposed on a fatigued post war community grieving two generations of family and caring for those returned ill and needing protection from any more confrontation and betrayal.

From a social impact view the Snowy thing unacceptable made worse by the avoidable spiralling down of the ecology community holds dear. Blown away under false pretences their surviving Brumby. More confronting than people burning the Australian flag in front of the epitaph on ANZAC day. Perhaps more deceitful and clandestine. Our bushmen undermined by the privileged rogues with city water and public sector jobs, resort holidays. Many are blow ins post war emigrants offered hospitality by our armies in many wars. Our horses galloped for *their* freedom.

Irish emancipists sent to Australia never to return to Ireland. Denied their own Parliament when Kosciuszko went to free America from the same tyranny. Returned to Poland and tried to free his own people. No return help from America. Irish Australians among others ran to assist mother England trying to forgive the inhumanity and dispossession of penal colony days way back when Brumby became our freedom icon, James Brumby red coat symbolic of humanity equality emancipation decency 1791-1804+ Sydney then moved his rescued wife and boys to Tasmania. Brumby and Kosciuszko preferred model to Muir, white supremacist and exclusive. Draft dodger, university drop out with a **one eyed** view of 'wilderness' created by others for which you fraudulently claim credit having gutted the rightful community derided and banished. *Had the Bighorn native sheep, bison herds and Indian tribes still been managing California would it be burning so spectacularly, or similarly N NSW, Queensland WA etc. Snowy if local community still plying their skills???* Would the Murray basin be in such serious protracted drought now? The 2500-3000+GL run off yield disappeared as a consequence of the 2003-9 bonfire.

Water cycling harvest and water sharing by dead sticks or regrowth thickets pumping dry the soil ground water because stomate control dysfunctional in regrowth forest for decades if it survives repeated fire cycle under current do nothing policies and tranny of deprivation of essential ecoservices. Soil water holding capacity stripped off 100-700+mm soil eroded burnt, gone the seed fungi humus and millions of years of biochar accumulations, clay cooked hydrophobic ('vitrify' turn to pottery or brick irreversibly) and sand turns to glass. In the order of 14 mega litres per hectare of water holding capacity blown into the stratosphere over millions of hectares similarly cooked, water buffer gone. Millions of years worth of soil production gone. The capacity to rebuild gone. 14ML water holding 6 months to a year or mores worth of rain held on site for drought relief and seep into the streams and ground water and those bogs supporting so many careers and junkets. 26180GL of water storage over 1.87M ha burnt 2003 which is greater than all 16, Snowy 1 dam capacity 8470GL. Add Burrenjuck, Hume, Dartmouth, Canberra water, 16704GL dam storage, flooding 60000+ hectares of bogs, riparian zones wildflowers, forest and still no match.

Similarly the upper Murrumbidgee and travelling cattle grazed green vegetation saved 200000 ha from burning at all 2003 fires stopped and stoppable, saving 2800GL soil water storage capacity central to Snowy 2 activities. The Brumby shot trapped sent off to the organic horse meat trade currently, as we search the world for renewable energy and cost effective fire fighting strategy. At a time when people like Donald Trump is saying "*deal with*

your fuel loads, fire risk or risk being ineligible for Federal funding assistance to rescue chronic neglect, fire fighting the impossible." 2800GL in excess of irrigators annual needs for food security and renewable export earning. Plus or minus 40-100GL diluent for Canberra's toilet Murray basin reform. \$80-\$200+M farm gate produce or \$64-1600+M indefinite, annually, value added. Will rural communities expect compensation, drought aid etc. Loss of viability displaced off the high rainfall zone sent inland to irrigation now lost to cotton, almonds, toilet flushing, bird and pig habitat. Burnt Kozzy bogs, move tourism out to the Barmah or Yanga. Burn the Cumbung Swamp saved from mega fauna ecoservices by bird watchers taking away more lifeline to the basin.

Would the current drought be so deep and long lived if the local water cycle still intact and viable???? Our dams so empty. Irrigators second fiddle to 'environmental flows' and water traders so disconnected from agriculture. Our stock routes and grazing leases closed overgrown and lank when needed most, both to retain stock and fire migration. Feed the now starving and disappearing biodiversity these ancient mega fauna migratory routes once serviced and that biodiversity serviced the water cycle.

The species obituary list is allowed to grow from bad policy advice. Starved, butchered burnt. Australia an appalling extinction record since experts have had unfettered access to our public land and water. The dingo and designer hybrids promoted over humanity for the first time in 4000 years so they can thrive on rabbits and exterminate native species in land now called commercial water catchment. Our scientific community more interested in public funded junkets than science of merit. Unaccountable monopoly. Invariably masqueraded as '*peer reviewed and independent.*' Closer scrutiny raises concerns about orchestration. You get the science you pay for. Science the adjudicator. How reliable is it and free from vested and conflicts of interest? Why compulsion to restart human observation from the first tentative steps out of the rain forests of Africa? Convenience to command knowledge. Gridlock humanity until science catches up to where humanity has gone and collect anything that has survived 'the experiment?'

Neither James Brumby or Kosciuszko would have tolerated the recent abuse of people horses national assets. Australian mild mannered, law abiding people will only take increments of abuse and deceit for so long. The on going derision marginalisation of our stockmen soldiers and their horses in the wake of the avoidable alpine holocausts 2003-9 and the various lead ups Byadbo, Ravine etc. small warnings ignored are not unnoticed or forgotten. Snowy 2 reopening significant grief for many and recall of injustices for our people and horses blatantly used for their loyalty, hospitality and trust for decades.

The national impacts avoidable and unforgivable. Doing nothing in the man made wilderness, destocked, gutted, debilitated starved, butchered, burnt deliberately is unacceptable.

No we do not support the Snowy 2 project. The poor pre and post fire management 2003-9 a direct consequence of adopted policies including the no graze dog packs, the butchering of Brumby a cultural vilification because the Brumby runs provided viable safe haven for what biodiversity and clean water run off that survived the climate changing holocaust and

bonfire challenge 2003-9. Soil Con mountains of dead flammable mulch designed to starve and burn. Unprecedented in the modern and prehistory of Australia.

Our communities and family would like this matter given strong consideration by the NSW Government Premier Deputy and relevant Ministers Stokes, Kean.....

Thank you
Noeline Franklin