

ACKMA Submission on Snowy 2.0



P O Box 5099
UTAS Sandy Bay
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Re: Snowy 2.0 – Environmental Impact Statement for “Exploratory Works”

ACKMA is an association bringing together karst and cave managers, cave guides, scientists, tour operators and cavers to better manage and interpret our karst resources in Australia and New Zealand in a professional manner. The Association has broad environmental and social interests in our natural environment – especially in relation to karst. ACKMA members have provided professional expertise across the two countries and elsewhere across the Southern Hemisphere from South Africa to Tonga in the Pacific and in a number of many Asian countries.

Firstly, we are concerned about the short time available for comment on a project of this enormous magnitude. Some six volumes with >3800 pages. Exhibited on 23 July for 28 days only. And a video clip that states that approval could be given so that “exploratory” works could start by the end of a year. The document reads as a *fait accompli*.

This remarkably short exhibition period and the rush to get approval are clearly politically motivated and is unwarranted and unacceptable for a project of this magnitude in such an important national park.

The project has already heavily impacted on Kosciuszko National Park with little in the way of environmental impact assessment.

Since the proposed project was announced several academic institutions have suggested very many pumped hydro projects across Australia. **Surely these should be examined before proceeding with this proposal in this sensitive environment.**

To turn to the specifics:

The document states that only three of Kosciuszko National Park’s eight karst areas might be involved. You have omitted Cooinbil on The Long Plain. The proposed project is unlikely to impact on either Coleman Plain or Cooinbil. However, we have concerns for the potential of issues with groundwater at Yarrangobilly. How will drainage of the machinery hall and access tunnels affect regional groundwaters?

Caves and tufa

Ravine and Wallaces Creek have the most extensive tufa deposits in south-eastern Australia – possibly in Australia as a whole. Water carrying dissolved limestone from the thinly bedded Devonian limestone of the Lick Hole Formation (part of the Boraig Group) has tumbled over the near-vertical walls of the conglomerate Milk Shanty Formation producing tufa ‘cascades’, ‘caves

of construction' (sometimes referred to as 'accretion' or 'carapace' caves) and low-angle tufa deposits including terraces (unfortunately much obscured by blackberries). Some of these latter may well be impacted by roadworks and other operations associated with the proposed project. The caves of construction are quite small in the proposed work area but are larger further up Wallace's Creek. The small caves in the tufa deposits support bats and have important sub-fossil materials.

Blockstreams

The periglacial blockstreams which cross the Lobs Hole access road will need special care to ensure that they do not collapse when the road is upgraded. They can be important reservoirs of small mammal habitat (e.g. Mountain Pigmy Possum and the Broad Tooth Rat) as well as other environmental information¹.

Biodiversity

ACKMA cannot comment in detail on biodiversity issues except in the case of bats. We know of six to eight species of forest bats at Yarrangobilly. There is no reason why at least some of these species would not exist and forage in the Ravine area. Was a bat survey actually carried out in the Ravine area?

The Eastern Bent-wing bat (*Miniopterus schreibersii oceanensis*) is certainly known from the site as the undersigned has worked for decades in the Ravine/Yarrangobilly/Coolman Plain area. I have observed this bat on several occasions in adits and elsewhere at Ravine.

This is in direct contradiction to the statements in Table 6.3 of the Biodiversity Development Assessment Report (Volume 6, Appendix F, page 105) and to the statement in Table 6.3 "The Exploratory Works survey area contains no suitable roosting structure for this species. This species is unlikely to roost within the project area."

This statement is simply wrong. I, and others, have seen them in the adits. I have also seen them in the small caves in the tufa cliffs. It appears one of the adits will be covered by tunnel spoil thus losing a roosting site.

Weeds

Weeds are already a considerable problem at Ravine with blackberries and St John's Wort are the chief offenders. However, there are a number of other non-native species there including poplars and briar present.

The vastly increased vehicle movements associated with the proposed project will promote the introduction of more weed species to the area and efforts must be made to reduce those

¹ Jennings JN and Caine N, 1968, Some blockstreams of the Toolong Range, Kosciusko State Park, New South Wales, *Journal and Proceedings of the Royal Society of New South Wales*, 101:93-103.

Jennings, JN, 1969, Australian Landform Example No. 13, Periglacial Rockstreams, *Australian Geographer*, 11:85-86.

introductions. Perhaps part of the remediation of the site could address the whole issue of non-native species at Ravine.

Disposal of tunnel spoil

We note that there are huge volumes of rock to be removed from the tunnel and the machinery hall. It seems that some of this will be simply stockpiled at Ravine and some will be disposed of by “sub-aqueous” disposal. (What is wrong with “underwater”?)

We are concerned that the spoil will potentially contain pyrites and other oxidisable minerals that may well have adverse aspects on the water quality of the Yarrangobilly River and Talbingo Reservoir – and potentially downstream in the Tumut and Murrumbidgee Rivers.

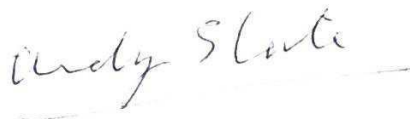
We note a comment about pyrites being layered with limestone (with a “purity of 99%” - there is little limestone in NSW of this purity – and much is a very long way from Ravine²). Elsewhere in the document (Appendix K, Section 5.1.2.1) a figure of >95% is used. The above quoted Appendix K states that the limestone will be coming from Moss Vale. As there are no extensive limestone deposits at Moss Vale, we assume the source is from the South Marulan quarry operated by the Boral Group? Section 5.1 says 58,000 cubic metres will be required. How many trucks per day will be required? The trucking and Lobs Hole Road maintenance costs will be huge.

Lobs Hole Road upgrade

This road crosses the important fossiliferous Lick Hole Limestone and lies within the catchments which supply the dissolved limestone that produces much of the tufa deposits characteristic of the Ravine area. Thus the interests of the fossils will need attention and the issue of excess sediment supply must be considered. As mentioned above road upgrade across the blockstreams will require careful planning and execution.

Recreational and other access to Ravine

We are concerned that Ravine may be off-limits for many years - no research, no recreation, no historical visits. This site has important historical and recreational links to many local people in the Tumut region and further afield in southern NSW and the ACT – perhaps the proposed project, if it goes ahead could have occasional open days?



Andy Spate

ACKMA President

20 August 2018

² See Carne JE and Jones LJ, 1919, *Limestone Deposits of New South Wales*, Geological Survey, Department of Mines, Sydney. This is the definitive work on limestone purity in NSW. I am unable to locate again in the document the “99%” figure.