

Conservation Commission

Incorporated in the ACT



**AUSTRALIAN
SPELEOLOGICAL
FEDERATION**

PO Box 388 BROADWAY NSW 2007

www.caves.org.au

ABN:15 169 919 964

Promoting conservation and sustainable management of Australia's cave and karst landscapes.

Reply to: Dr Clare Buswell, Chair. ASF Conservation Commission
Clare.buswell@flinders.edu.au

31.1.23

masterplan@jenolancaves.org.au

To Whom It May Concern.

Re: Jenolan Caves Grand Arch Precinct Master Plan (PMP)

Preamble

The Conservation Commission (The Commission) of the Australian Speleological Federation, understands the need for the redevelopment of the Jenolan Precinct given the combined impacts of recent major climatic events, fire, and floods of the last 3 years, and that building and infrastructure need upgrading due to both age, and changing visitor demands and expectations.

The Commission notes the high heritage values that give Jenolan Caves Precinct an ambience only found at the comparable sites of Yarrangobilly Caves and the Mt Buffalo Chalet in Victoria, both of which have buildings of similar design and were built in the same period.

The Commission is aware that serious access issues, in particular collapsing access roads, influence total population numbers visiting the site (workers, cavers, tourists), and eventually that overhead access to the Precinct is planned as the safest and most stable/long term option.

The Commission recognizes that the plan aims to reduce pedestrian and car interaction via improving pedestrian flows, upgrades to footpaths and walking tracks and with the building of a new Gateway Centre with overhead access.

The Commission acknowledges the need to cater for changing cliental needs and appreciates the complexities involved when upgrading infrastructures on karst landscapes and within this constrained site.

All are commendable endeavours, and some are to be welcomed.

The Commission wishes to coment on the following issues.

Consultation

The Commission notes that on page eight of the PMP that the project is now at the public consultation stage and that project development and stakeholder engagement occurred sometime over the past three years. The fact is that the Australian Speleological Federation was not consulted as part of that stakeholder engagement process. This is despite the fact that:

CONSERVATION COMMISSION
AUSTRALIAN SPELEOLOGICAL FEDERATION

- The Australian Speleological Federation is the peak national body of speleologists with 25 member societies representing slightly more than 1,000 members. Its aims and objectives are to explore, document, conserve and educate members of the public about the caves and karst of Australia.
- Its members have been responsible for the exploration, mapping, documentation and furthering scientific research of the caves and karst at Jenolan over many decades.¹

Further,

- The ASF's Conservation Commission is tasked with advocating for better management and protection of caves and karst on both public and private land. The Commission provides information to its members, land managers and others about karst conservation matters and provides advice on courses of action on cave conservation issues.
- This lack of consultation with important, relevantly skilled, long-term stakeholders raises issues of accountability and transparency. The Commission, over the past 18 months, has witnessed a number of grave failures in due process, in relation to developments on karst landscapes in NSW National Park and publicly administered lands. These failures have forced the ASF and members of the speleological community to consult in person with the Minister for the Environment, Mr James Griffin and his counterpart, the Shadow Minister for the Environment, Ms Penny Sharpe.

It is thus negligent to ignore the valuable contribution of the ASF and relegate it to a public submission level of engagement when it and its member clubs are clearly major stakeholders.

Risk

Buildings

The proposed new Gateway Centre is to be built on the site of the old Hills Flats building. This will mean that, like the Hills Flats building, it sits on the McKeowen Fault and over the Surveyor's Ck culvert.² Water egress has no doubt been one of the reasons the foundations of the Hills Flats are failing, and it is questionable that in times of high flow, even via a renewed culvert that water egress can be managed. Further, the plan places this new building in an area of rock fall identified in a key hazard zone (page 100, Fig 6.31).

Given these three risks, the question must be asked, as to how the levels of risk are going to be managed in relation to both the proposed new building and the Cambridge car park? The Commission suggests that re-siting the lot is better than continued hard engineering solutions. Solutions that will incur considerable maintenance costs over time.

Access

Access to the Reserve is recognised in the plan as an engineering problem, when in fact it is far more than that. Successive Jenolan Caves Reserve Trust's annual reports espouse the Trust's ability to increase visitation levels, with management seeking ever more creative ways

¹ See the work of the ASF member club, Sydney University Speleological Society: Larkins R., *The Caves of Jenolan 3, The Southern Limestone* (2021), Mammoth Cave Compendium. (2020). Northern Limestone (1976). SUSS Bulletin. Special edition – 'Spider Cave'. (1999). Sydney University Speleological Society. <https://suss.caves.org.au/about/publications/> Accessed 29.1. 2023. See also the ASF publication, Helictite, Moshumi. J. Smith & Georgette Leah Burns. 'Australia's crystalline heritage: issues in cave management at Jenolan Caves.' Helictite, 40 (2), 2011. <https://helictite.caves.org.au/pdf1/40.2.Smith.pdf> Kiernan, K., (1988a). The Geomorphology of the Jenolan Caves Area. Helictite 26, 7-21.

² Branagan. D., Pickett J. & Percival. I. 'Geology and Geomorphology of Jenolan Caves, and the Surround Region.' *Proceedings - Linnean Society*. NSW. 2014. No. 136.

CONSERVATION COMMISSION
AUSTRALIAN SPELEOLOGICAL FEDERATION

to increase market share. None more so than during the Covid pandemic.³ The building of more car parking spaces, combined with a new reception space, is in fact another attempt to both increase and cater for visitation levels. What is lacking is a recognition that the site itself is the limiting factor to such management strategies and thus to sections of the PMP.

The Jenolan Caves Reserve Trust, Annual Report for 2021 notes a move to using on-line ticketing of cave tours and package deals such as coupling cave tours with dining and accommodation add-ons.⁴ This, combined with the fact that access and parking will remain at a premium given the problems with road access, the narrowness of the entire site, and plans for upgraded accommodation and camping, suggests a change of plan is needed. Perhaps the best option would be to build the Gateway Centre, at the top of the Two Mile, and bus *day trippers and workers* in. This would reduce the traffic flows considerably. After-hours access for cavers, campers and guests at Caves House, the Mountain Lodge, etc would still be maintained.

Siting the Gateway Centre at the top of the Two Mile, or at the Carlotta Car Park or perhaps at the intersection of the Kanangra Boyd/Edith Rds, with the latter attracting a larger trade of passing motorists, could be a part of the solution. If the Centre was built at the Carlotta car park it would also capture those who normally park in the Carlotta car park and walk down the Six Foot Track or along the final section of the Two Mile, to the Grand Arch/caves road.

Financial

In terms of financial risk and the need to develop a business plan for aerial access (p. 26/7), it should be kept in mind that the use of cable cars to access tourism sites is not uncommon throughout the world. For example, Chamonix - Aiguille du Midi, where they run all year round. The Commission encourages serious exploration and costing of such alternative access options. Shifting the planned siting of the Gateway centre and multi-story car park now, would reduce the financial risks involved for the Trust in the long run.

Cave Tours: Nettle - Arch Cave via the Devils Coach House.

The Commission notes that upgrades to infrastructure within caves requires an appropriately detailed environmental assessment (p. 74). Yet, the PMP outlines several changes to existing and new infrastructure: the removal of staircases, the erection of barriers, and pathways within caves, for example, to enhance visitor experiences. However, the PMP provides no details on how it is going to mitigate the construction impacts on cave biota. The Commission strongly recommends that members of the ASF and the Australian Cave and Karst Management Association are consulted on these issues *before* construction begins. Further, The Commission would like to see the public release of the detailed environmental assessment, as building on karst landscapes is a specialised process requiring speleological knowledge.

The Commission recognises the importance of self-guided tours, which allow visitors to take time for enjoyment and reflection in natural environments. To 'get away from it all', as the saying goes. This is of course a major theme of the 2019 Management Plan.⁵ However, the proposal for a self-guided tour option through Nettle and Arch caves via the Devils Coach House, should be rethought.

³ Jenolan Caves Reserve Trust. *Annual Report*. 2018-2019. p.10. 2019-2020. p.14. 2020-21. p. 15.

⁴ Jenolan Caves Reserve Trust. *Annual Report*. 2020-21, p.14. It notes that only 10% of visitors purchased something at the gift shop.

⁵ Jenolan Karst Conservation Reserve Plan of Management. 2019. Office of Environment and Heritage. Sydney. p. 38.

CONSERVATION COMMISSION
AUSTRALIAN SPELEOLOGICAL FEDERATION

The Commission is concerned about the unwarranted activities of visitors, such as getting lost or going off track, and the associated impacts on cave environments.⁶ Within this proposed tour there is the real possibility of people being unable to continue, due to the number of stairs involved and perceived fitness levels. At present, the self-guided tour of the Devil's Coach House and Nettle cave can take anywhere between ½ an hour to an hour. Adding in Arch Cave will of course increase this time. If the proposed tour is guided, it will improve both visitor safety and protect cave environments. Consideration should also be given to issues around ease of rescue if an accident occurs. The Commission strongly suggests that the tour be guided, to minimise impacts on these caves and their entrances.

Walking Tracks and Culverts

The Commission welcomes plans to improve both the surfaces and the accessibility of Jenolan's walking tracks. In relation to walking track developments on karst, keeping the constructions of paths to a minimum, building raised walkways, and retaining natural vegetation, is imperative. Jenolan is known for its bryophytes (mosses).⁷ The presence of bryophytes helps manage water qualities and establishes habitats on barren rock pavements. The damage done, by the bushfires of 2020, to the slopes around the precinct, increases the need to reduce the disturbance of these areas to a minimum.

Care must also be taken when converting culverts back to natural streamways in areas with high human traffic levels. The risk of drowning is ever present and safety options must be clearly displayed. The Surveyors Ck culvert is, as is noted in the PMP, an important platypus transit route and habitat. Opening this up, will of course increase interactions between the visiting wildlife (platypus, lizards, birds, etc) with humans. It is here that there is potential for conflict and there needs to be a well-developed management plan in place to limit unwanted interactions.

The use of cobble stones, flagstones (p. 91), although visually impressive and useful in designating zones, for those using walking aids, wheelchairs, walkers etc, they are not acceptable surfaces. For those who are visually impaired, care must be taken with the use of colours (dark gravels or dark concretes), which can limit visual contrasts.

The use of appropriate methods to stabilize slopes is important if the vegetation specific to the valley is to be maintained and enhanced post the 2020 bushfires. The Commission suggests that plant species endemic to the area be used as the highest priority rather than simply resorting to hard engineering solutions, as suggested on pages 99-101 of the PMP. The Commission does, of course, recognise that this will not always be possible, but if the amenity of the valley is to be maintained, then serious efforts, using revegetation methods, should be made.

Lighting

The PMP points out that underground lighting will be upgraded (p. 30). This raises issues around appropriate cave lighting methods and the recent evidence of the impacts of LED lighting on cave biota and bats.⁸ Three species of bats are known to roost in caves at Jenolan: the eastern bent-wing bat (*Miniopterus schreibersii oceanensis*), large-eared pied bat (*Chalinolobus dwyeri*), both listed as vulnerable, and the eastern horseshoe bat (*Rhinolophus*

⁶ Gillieson D. Gunn J. Auler A. and Bolger T., (Eds). *Guidelines for Cave and Karst Protection*. (2nd Ed). 2022. Postojna Slovenia. IUCN.

⁷ Downing. A. Oldfield. R., Limestone Mosses, *Nature Australia*. Summer, 2001-2. pp 54-61.

⁸ T.M. Straka, S. Greif, S. Schultz, H.R. Goerlitz, C.C. Voigt. 'The effect of cave illumination on bats. *Global Ecology and Conservation* 21. (2020). DOI:[10.1016/j.gecco.2019.e00808](https://doi.org/10.1016/j.gecco.2019.e00808).

CONSERVATION COMMISSION
AUSTRALIAN SPELEOLOGICAL FEDERATION

megaphyllus).⁹ Particular attention must be paid to the immediate entrance areas of caves where the interaction of artificial lights on cave dwelling and sheltering communities of bats, sooty owls, brush tailed wallabies and spotted tailed quolls can have serious impacts. This includes increasing predation opportunities by snakes, foxes and/or birds of prey. It is important that any cave lighting plans, and subsequent construction, is undertaken by those highly competent in this specialised area.

Access

There is a lack of cubicle space allocated in all the women's toilet areas, coupled with a lack of adequate planning in relation to unisex and disability access toilets and parent's rooms.¹⁰ This is a serious issue and needs to be addressed.

There is not enough access for those using walkers, wheelchairs or requiring the help of carers within the village itself. Plans for increasing and upgrading garden areas should make sure that people using walking aids are able to easily manoeuvre around and *within* them, and thus enjoy the amenity and solitude that comes from such important spaces.

There is only one accessible cave tour for anyone requiring ambulant help.¹¹ This should be addressed. For a spend of \$8.5million of taxpayer's money for this development alone, such a lack of access across a broad range of facilities and experiences is not acceptable.

On behalf of the ASF Conservation Commission I thank you for the opportunity to comment on issues raised in the Grand Arch Precinct Management Plan and look forward to further involvement with the these developments.

Sincerely,



Dr Clare Buswell

Chair, Australian Speleological Federation Conservation Commission.

Email: Clare.buswell@flinders.edu.au

Selected Bibliography

Gillieson D. Gunn J. Auler A. and Bolger T., (Eds). *Guidelines for Cave and Karst Protection*. (2nd Ed). 2022. Postojna Slovenia. IUCN.

Jenolan Karst Conservation Reserve. Plan of Management. Feb. 2019. Office of Environment and Heritage. Sydney.

The Vertebrate Fauna of the Jenolan Karst Conservation Reserve. Office of Environment and Heritage, (OEH) Department of Premier and Cabinet, Sydney. (2012)

⁹ The Vertebrate Fauna of the Jenolan Karst Conservation Reserve. Office of Environment and Heritage, (OEH) Department of Premier and Cabinet, Sydney. (2012). p. 115-118.

¹⁰ Lezlie Lowe. *No Place to Go: How Public Toilets Fail our Private Needs*. Coach House Books. Toronto. 2018.

¹¹ This is to the first chamber of Orient Cave and is run as a private tour.