AUSTRALIAN SPELEOLOGICAL FEDERATION

CONSERVATION COMMISSION

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Promoting conservation and sustainable management of
Australia's cave and karst environments

Reply to: Dr Clare Buswell. Chair, Conservation Commission of the ASF.

7 Feb. 2025

**Re: EPBC Referral – Western Green Energy Hub (EPBC 2024/10049)**

## Opening Remarks

The Australian Speleological Federation (ASF) is Australia's peak national body of speleologists with 25 member societies representing slightly more than 1,000 members. The ASF is a member of the International Union of Speleology. The aims and objectives of the ASF are to explore, document, conserve and educate members of the public about the caves and karst of Australia. In the furtherance of these aims our members have been responsible for the exploration, mapping, documentation and furthering scientific research of the Nullarbor caves and karst over many, many decades.[1]

The ASF's Conservation Commission, (herein, The Commission), is tasked with advocating for better management and protection of caves and karst on both public and private land. The Commission provides information and advice to its members, land managers and government about karst conservation matters.

## Matters of National Environmental Significance (MNES).

The following will be impacted: threatened species, migratory species, commonwealth marine areas, adjacent protected areas and the nationally listed Heritage place, Koonalda Cave.

### 1) Threatened species, migratory species,

The WGEH has identified two species of birds that are MNES listed species, the Southern Whiteface, (*Aphelocephala leucopsis) and the Mallee fowl, (Leipoa ocellata),* noted five migratory species, and with its surveys discovered a wider home range area than previously observed for the Southern Hairy-nosed Wombat, Wardu. For Matters of National Environmental Significance (MNES) to have effect it must be recognised that in the case of species survival, the ecological interconnectivity of the Nullarbor plain matters. The Commission emphasizes that the surveys undertaken by WGEH are not adequate given the huge scale, type of development proposed and the limitations of the surveys themselves.

This limitation of surveys is seen in by the fact that the WGEH has paid no attention to any of the impacts on the karst landscape itself except to recognise that cave dolines provide a form of refugia, with nesting sites for owls, kestrels etc, (p. 45 EPBC Act Supporting Referral document).

Importantly, the following statement is misleading and incorrect:

[1] For example: Dunkley. J.R. & Wigley T.M.L., (Eds) *Caves of the Nullarbor* . Speleological Research Council. Sydney. 1967.

> the significant karst features in the locality are either *outside of the project area*, (in most cases), or have been buffered by a nominal minimum of 1km to avoid any direct impact from the proposed action disturbance footprint. (Section 3.2.4.3 p. 45 referral supporting document.) [Emphasis mine]

The statement is indicative of the fact that WGEH have failed to undertake a basic desktop study of publicly available material which shows the current extent of the karst features to be found within the project area.[2]

The use of buffer zones and avoidance practices is a further indication that the WGEH has grossly failed to understand how karst landscapes work as integrated landscape systems. For example, any changes to the surface by the construction of roads, hard-stands, rock bolting, percussive drilling, foundations for electrolysis plants, laying of underground cables, will all impact the voids, and drainage found in this landscape. The result of this is the silting of underground passages, impacting the airflow, temperatures, water flows and thus the habitats of the unique subterranean fauna found within.

The Nullarbor's caves contain species that are range restricted, that is may only be present in certain caves, or one cave, together they form unique communities within the whole of the Nullarbor's subterranean landscape. They are found nowhere else on earth. The recently discovered blind spider, Troplodiplura is one such species and the stygofauna found in the Nullarbor's ground water are similarly unique to the Nullarbor.[3] Thus the Minister must recognise that the material presented by the proponent is inadequate.

### 2) Adjacent Protected Areas

The Nullarbor Plain is a site of ecological connectivity, in that its ecosystems despite extensive overgrazing, are functionally connected across the entire plain.[4] Federal and State Governments over a period of 20 or more years have used the concept and practices of functional connectivity as the basis of conservation policy.[5] The importance of functional connectivity as a management tool for the Nullarbor, is recognised on the South Australian section of the Plain by the presence of the Nullarbor National Park, the Nullarbor Regional Reserve, the Nullarbor Wilderness Protection Area, the Anangu Tjutaku Indigenous Protected Area to the north of the project area and the Commonwealth Marine Area. The Commission notes the serious omission by the WGEH of impacts on the adjacent protected areas that abut the proposal over the WA/SA border and to its north and south.

### 3) Nationally Listed Heritage Place.

The Commission notes that WGEH has been consulting with the Traditional owners of the area involved and that any heritage found will be subject to avoidance practices and protection via

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[2] Nicholas White, Ken Boland, Daryl Carr, Greg Leeder. *Exploring for New Caves on the Nullarbor Plain, Australia.* Proceedings of the 17th International Congress of Speleology. Sydney. 2017. pp.360-363.

[3] Marsh. J.R, Milner. S, Shaw. M, Stemple. A.J, Harvey. M.S, Rix. Michael R. G, 'A Case for Below-Ground Dispersal? Insights into the Biology, Ecology and Conservation of Blind Cave Spiders in the Genus Troglodiplura (Mygalomorphae: Anamidae)'. Insects. Vol.14. 5. 2023. 10.3390/insects14050449

[4] Soulé. M.E., Mackey. B.G., Recher. H.F., Williams. J.E., Woinarski .J.C.Z., Driscoll. D., Dennison W.C., and Jones. M.E., The Role of Connectivity in Australian Conservation'. *Pacific Conservation Biology.* 2004. 10(4) 266 – 279.

[5] Wyborn. C., 'Connectivity Conservation: Boundary objects, science narratives and the co-production of science and practice'. *Environmental Science and Policy* 51. 2015. pp. 292-303.

fencing. It is salient that a great deal of damage occurred to the finger flutings in the gated, locked, nationally listed heritage Koonalda cave, 90km from the proposed site of this development. The exploration of caves and the surface of the Nullarbor by ASF members has found both surface evidence, flint scatters, rock holes, for example, and artwork in the caves within the development envelop. The Commission is strongly of the opinion that WGEH's proposed methods of protecting aboriginal heritage will fail to address intransient heritage values and artefact alike.

Importantly, given the inadequacies of the material presented by the proponents, including the fact of limiting visual impacts studies to only what you can see and hear from the highway or from the township of Eucla. This ignores those working and living on station leases or traversing the plain itself. The narrowness of the proponents reasoning defies the impact on the Nullarbor plain's visual presence. Its vastness is important to the intransient cultural heritage of the Mirning people and forms part of its folklore both nationally and internationally.

## Nullarbor values

It has long been understood that the Nullarbor's outstanding universal values meet all the criteria for a world Heritage listing.[6] Since that first proposal of 1992, research has added to those values via discoveries of megafauna fossil material, pollen in speleothems, and Flank Margin caves.[7] All are indicative of the importance of the Nullarbor's unique values. To highlight just two of the criteria that the Nullarbor meets:

- stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.
- significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.

## Conclusion

The Commission recommends that the Minister should assess this development under the EPBC Act as a 'controlled action'. In doing so the Minister must note the impact on:

- Threatened species, migratory species,
- Adjacent Protected Areas
- Adjacent National Heritage Place.
- Commonwealth Marine areas

The Minister should further note the inadequacies of the material presented by the proponent in relation to:

- the Nullarbor as an area of significant ecological functionality.

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[6] Davey, A.G. Gray, M.R. Grimes, K.G. Hamilton-Smith, E. James, J.M. & Spate. A.P. *World heritage significance of karst and other landforms in the Nullarbor region. 1992.* A report to the Commonwealth Department of The Arts, Sport, The Environment & Territories. Applied Ecology Research Group. Faculty of Applied Science, University of Canberra.

[7] Prideaux. G., Long. J. A., Ayliffe. L. Hellstrom. J. Pillans B. Boles. W. Hutchinson. M., Roberts R., Cupper M., Arnold. Lee., Devine. P., Warburton N., 'An arid-adapted middle Pleistocene vertebrate fauna from south-central Australia.' Nature. 2007. Vol 445. pp. 422-425. Woodhead. Jon D., Sniderman. J. M. Kale., Maas. R., White. N., White. S., Hellstrom. J., Devine. P., Drysdale. R N. 'The antiquity of Nullarbor speleothems and implications for karst palaeoclimate archives .' *Nature. Scientific Reports* Jan 20. 2019. | 9:603 | DOI:10.1038/s41598-018-37097-2

- Failure to understand and thus mitigate impacts on the karst landscape, its soils, caves and speleothems.
- In particular the proponents have failed to understand fact that what you see on the surface bears no correlation to what is to be found underneath.
- WGEH has provided no statement of what they are going to do if and when excavation break into voids and mitigate or prevent impacts.
- No survey any subterranean fauna has been undertaken
- There are no studies of the stygofauna present within the underlaying groundwater presented or carried out by the proponents.
- Inadequate assessment of material available on the number of caves present within the development envelop.
- Inadequate presentation on the use of underground water sources for construction of roads, handstands and dust mitigation.

To conclude the conservation of Australia's Nullarbor Plain deserves national and world heritage recognition not its industrialization as an ammonia production park under the guise of a renewable energy development.

Yours Sincerely

Clare Buswell
Chair. Conservation Commission of the Australian Speleological Federation

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