

THE DESTRUCTION OF KARST PAVEMENT IN THE SOUTHEAST OF SOUTH AUSTRALIA

- Steve Bourne

The area South West of Mount Gambier is noted for the spectacular cenotes such as Kilsby's Hole, The Sisters and The Shaft. It is also the best development of karren fields in the South East karst province (Grimes *et al.* 1995). Several of the large cenotes are surrounded by this surface karst that has been used extensively for agricultural practices, predominantly the grazing of livestock. Although some are on Crown Land Reserves, such as The Sisters Sinkhole (Collins 1999), this does not afford a great deal of protection. Anybody wishing to dive the cenotes must be accredited through the Cave Diving Association of Australia (CDAA), but this does not preclude any other member of the public visiting these sites, adding tourism pressures such as rubbish. The greatest threat to these features however is agriculture, with ripping of the limestone changing the hydrology of the area and fertilizers potentially giving rise to surface algal mats (Grimes 1999).

A recent visit to The Sisters Sinkhole revealed the complete destruction of the karst pavement immediately adjacent to The Sisters and to the land surrounding Kilsby's Hole. The land has been deep-ripped with a bulldozer in an attempt to convert it into viable agricultural land. Most of the soil has been long stripped from this area, with only small pockets remaining collected in the solution features of the landscape. Surely this attempt to turn what has been traditionally low carrying capacity country into more viable land will involve fertilisers that could seriously affect the health of the groundwater ecosystems. At present, the water appears very healthy, with large numbers of small fish present. (I do not know whether these are native or have been introduced to the sinkhole) The hydrology of the area has been irreversibly changed and provides a stark contrast to the undisturbed land across the road.

This land has the more significant karst pavement that also contains small caves. These have been found to contain significant Pleistocene fossil deposits with a complex accumulation history. As yet these small but important deposits are yet to be fully assessed by palaeontologists.

It is unfortunate to see such a large area of unique landscape changed in this way.

Karst pavements with destruction seen beyond the fence line.



Recommendations have previously been put forward for a more adequate program of public education and thorough environmental impact assessments of extractive industries to ensure the industry does not have a negative impact on sites of scientific importance (Grimes *et al.* 1995). The INRM Plan (Integrated Natural Resource Management Plan) for the South East of South Australia is currently being produced. It contains a section on karst values and recognises the key threat to many of the features is habitat modification in the immediate vicinity of caves and sinkholes.

The karst pavement neighbouring the ripped paddocks would appear to be safe for the foreseeable future, with the land owner not intending such drastic action. It would be a pity however, to see more of this unique landscape lost and the overall health of the cenotes threatened.

REFERENCES

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