



ENDANGERED



TUMULUS SPRINGS OF THE SWAN COASTAL PLAIN

The Department of Conservation and Land Management's (CALM) WA Threatened Species and Communities Unit (WATSCU) is conducting a project to identify threatened ecological communities of plants and animals in the South-West Botanical Province, and to establish priorities for attempting to conserve them.

One community identified early in this process was tumulus springs. These are mounds of organic material which have accumulated around springs fed by the groundwater of the Gnangara Mound. They once occurred naturally on the Swan Coastal Plain between Bayswater and Muchea along a line roughly parallel with the Darling Scarp.

In a 1994 report to the WA Water Authority, Ms Edyta Jasinska and Dr Brenton Knott, of the University of Western Australia's Department of Zoology, showed that these springs form a distinct and scientifically interesting ecological community, and suggested the name tumulus springs (from the Latin word meaning 'little mound') to distinguish them from the calcareous mound springs

of the Great Artesian Basin in eastern Australia.

The biology of the tumulus springs is not well known, but a number of species of moisture-loving plants, usually found in the far south-western corner of the State, have been found in them, and the community relies on permanently moist habitat for survival.

Once, these springs were common within their restricted distribution, but most occurrences have now been cleared, drained or otherwise highly modified.

There is little doubt about the critically endangered nature of the tumulus spring communities. Considerable searching has revealed only two remaining examples of the community, both only a few hectares in extent and both on private land in areas where housing development is replacing older land uses.

One of the two remaining occurrences of tumulus springs was on a property at Muchea owned by

Mr Bevan Peters. Here, a series of mounds occur in a patch. They are somewhat modified by cattle grazing and trampling and, very recently, by fire. However, they still retain a healthy overstorey, as shown in the photograph above, and the morphological and hydrological features of tumulus springs—spongy, peaty mounds up to two metres high that continuously seep water from their whole surface or sometimes from a discrete central channel. Temporary pools, supporting a different seasonal fauna, may also form in depressions between the mounds.

Mr and Mrs Peters were very sympathetic to the idea of protecting the natural values of their tumulus spring and were interested in selling the area on which it occurs. Negotiations were short and amiable, and within two months an offer from CALM had been accepted.

The newly purchased lot will be fenced. The springs are expected to respond well to limited management, especially the exclusion of stock, together with fire and some weed control.

By John Blyth and Val English
Photo – Val English

LANDSCOPE

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Thanks largely to CALM's fox-control programs, the recovery of the woylie has been so swift that the species has now been taken off the threatened fauna list (see page 10).



This killer whale, photographed at Ningaloo, is one of 36 marine mammals living off the WA coastline. Read about them on page 16.



LANDSCOPE Expeditioners made some interesting discoveries during last year's expedition to Queen Victoria Spring. Read all about them on page 23.



Spring flowers thrive on a moss carpet—one of the range of attractions on offer in the Porongurup National Park (see page 28).



The rose mallee is just one species benefiting from action by recovery teams working together for conservation (see page 36).

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COVER

A new book, *Broome and Beyond*, takes an in-depth look at the plants, such as this *Pittosporum molluccanum*, people and cultures of the Dampier Peninsula, in Western Australia's Kimberley Region. The story on page 48 takes a brief glimpse into this exciting new book.

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