



Organic mound spring sedgeland community of the North Kimberley bioregion

Summary description

Occurrences of this community are centred on mound spring habitat in the North Kimberley bioregion. The community is comprised of sedgelands and grasslands that are almost completely devoid of trees and shrubs due to a waterlogged seepage zone and can also include boggy fernlands. Associated woodlands occur at the margins. The community encompasses the associated woodlands that are also affected by the hydrology of each mound spring. The community is distinguished in particular by the invertebrate biota that inhabit them, and also the sedgelands or grasslands that typify the core seepage zones of the springs. Most of the sedges present on these mound springs are restricted to the



periphery of wetlands and creeks, or broad drainage depressions on sandier soils where grasses are dominant. Eight plant species found in the mound spring community have priority conservation status in Western Australia: *Cyperus unioloides* (uniola flatsedge; priority 1), *Eleocharis ochrostachys* (spike rush; priority 3), *Eriocaulon inapertum* (pipewort; priority 1), *Lobelia leucotos* (blue lobelia; priority 1), *Rhynchospora gracillima* (thin beaksedge; priority 1), *Rhynchospora rubra* (priority 3), *Spiranthes sinensis* (austral ladies tresses; priority 1) and *Utricularia circumvoluta* (bladderwort; priority 1). Seven of these species (all except *Rhynchospora rubra*) are considered useful indicators of mound springs in this location, since their occurrence is almost entirely restricted to mound springs in Western Australia, or their margins.

Distribution

The community occurs over a range of 60km across three pastoral leases within the North Kimberley bioregion.

Department of Biodiversity, Conservation and Attractions (DBCA Region): Kimberley
DBCA District: East Kimberley

Local Government Authority: Shire of Wyndham-East Kimberley

Habitat requirements

The spring sedgelands contains a diffuse discharge area (core seepage zone) up to about 200m in diameter with strong microrelief across the whole surface. Surface water to a depth of 20cm has been recorded in the core areas that can include up to about 1% cover of open water. Surface flows also occur in some areas. The core seepage zones comprised black peaty loam with dense sedges and grasses to 1.4m high, and can be covered in vines, with a total cover of almost 100%.

Indigenous interests

Traditional Owner group: Ngarinyin (Wilinggin)

A register of Aboriginal cultural heritage sites kept by the Department of Planning, Lands and Heritage lists sites of Aboriginal significance in the vicinity of this community's occurrences.

The land is subject to the Wanjina-Wunggurr Wilinggin native title determination held by the Wanjina-Wunggurr Aboriginal Corporation for members of the Wanjina-Wunggurr Community. The Kimberley Land Council represents the Traditional Owners and is the native title representative body for the Kimberley region.

Conservation status

State: Listed as a critically endangered ecological community under the *Biodiversity Conservation Act 2016*. Threatened ecological communities are declared environmentally sensitive areas under the *Environmental Protection Act 1986*.

National: The community occurs within the West Kimberley National Heritage listed place, protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

Threatening processes

Major threats to the community include grazing and trampling by introduced herbivores (cattle and pigs), weed invasion, hydrological change, and inappropriate fire regimes. All known occurrences of this community are subject to the impacts of cattle. The condition of springs surveyed in 2016 had greatly improved following fencing.

Recovery plan

Development of a recovery plan is recommended for this community. Priority actions include developing and implementing a monitoring plan and using results to guide management, and surveying for other occurrences. Consistent monitoring and management of fences, cattle impact and fires is recommended.

Key references

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Department of Environment and Conservation. (2009). *Resource Condition Report for high Conservation Value Aquatic Ecosystem (HCVAE) on mound springs in Western Australia*. Prepared for Inland Aquatic Integrity Resource Condition Monitoring Project.

Knott, B. & Jasinska, E. J. J. (1998). Mound springs of Australia. In: L. Botosaneanu (Ed.). *Studies in Crenobiology: the biology of springs and springbrooks*. Backhuys Publishers.

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