Assemblages of the organic springs and mound springs of Mandora Marsh area

Summary description

The community occurs in the Mandora Marsh area, which is located 140km south-west of Broome and approximately 40–100km inland from Eighty Mile Beach. Plant assemblages associated with the springs include paperbark *Melaleuca leucadendra* or *Melaleuca cajuputi* forest and *Sesbania formosa* (white dragon tree) woodland, with or without an understorey of *Acrostichum speciosum* (mangrove fern). Stands of the bulrush *Typha domingensis* and sedgelands dominated by *Schoenoplectus* spp. with *Fimbristylis* spp., along with patches of the grass *Sporobolus virginicus* (marine couch) also occur. In addition, a few *Avicennia marina* (white mangroves) occur on the more brackish springs. *Acacia ampliceps* is often present in the mid-storey but is not abundant. *Typha domingensis* (bulrush) and sedges with a few emergent trees or mangroves dominate the vegetation on some of the small mound springs. The dominant vegetation of the springs varies between occurrences and over time due to damage by cyclonic winds. Invertebrate fauna from mound springs of the Mandora Marsh area are much richer than in springs further north in the Kimberley, and very few species are common to both areas. The permanent water and dense vegetation of the springs provide a refuge for fauna within an otherwise arid desert landscape.

Distribution

The mound springs occur within Walyarta Conservation Park, in the transition zone between the Pilbara and Kimberley Regions, on the northern edge of the Great Sandy Desert.

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

Local Government Authority: Shire of Broome

Habitat requirements

The springs occur on a paleao-river system (an ancient river). They comprise fresh to brackish spring-fed swamps with peaty substrates, many of which form raised peat mounds to 3m high over the source of the spring. Generally, the mounds are surrounded by a freshwater moat varying in depth from damp soil to up to 0.4 m deep and are associated with aquatic or emergent vegetation.

Indigenous interests

Traditional Owner group: Nyangumarta

A register of Aboriginal cultural heritage sites kept by the Department of Planning, Lands and Heritage lists several sites of Aboriginal significance in the vicinity of this community. Walyarta Conservation Park and the springs hold strong cultural significance to the Nyangumarta people, who utilised the springs as a water and food source. The springs also play key roles in storytelling.

The land is subject to a native title determination held by the Nyangumarta Warrarn Aboriginal Corporation for the Nyangumarta people. Joint management of the park is undertaken by Nyangumarta Warrarn Aboriginal Corporation and the State Government through an Indigenous Land Use Agreement. 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*.

Threatening processes

The most significant immediate and ongoing threats to the integrity of the mound springs are grazing and trampling by cattle and camels. Hydrological change is probably the next most significant threat, as a series of large-scale current developments and future proposals have potential to impact the aquifers that maintain the springs. Future potential threats include weed invasion, altered fire regimes and climate change.

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 impacts, hydrology and fires is also recommended.

Key references

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