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

TEC Description

The community occurs in the Mandora Marsh area, which is located 140 km south-west of Broome, and approximately 40 to 100 km inland from Eighty-Mile Beach. Plant assemblages associated with the springs include paperbark *Melaleuca leucadendra* forest with or without an understorey of *Acrostichum speciosum* (mangrove fern), and *Sesbania formosa* (white dragon tree) woodland with or without an understorey of mangrove ferns. Stands of the bullrush *Typha domingensis* and sedgelands dominated by *Schoenoplectus* spp. with *Fimbristylis* spp., along with patches of the grass *Sporobolus virginicus* also occur. In addition, a few *Avicennia marina* (white mangrove) occur on the more brackish springs. *Acacia ampliceps* is often present in the mid-storey but is not abundant. *Typha domingensis* 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 these invertebrate fauna within an otherwise arid desert landscape.

Distribution

Department of Biodiversity, Conservation and Attractions (DBCA Region): Kimberley
DBCA Districts: West Kimberley
Local Government Authority: Shire of Broome
Tenure: Walyarta Conservation Park

Habitat Requirements

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

The Traditional Owners are the Nyangumarta people who hold determined native title over part of Walyarta Conservation Park, including the springs. Joint management of the Park is undertaken by Nyangumarta and the State Government through an Indigenous Land Use Agreement. 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 story-telling. Numerous cultural sites are registered in the Department of Aboriginal Affairs Aboriginal Heritage Sites Register in close proximity to the spring community.

Conservation Status

Listed as endangered under WA Minister Environmentally Sensitive Areas list in policy.

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

A recovery plan is recommended for the community to outline the recovery actions required to reduce the threats and to maintain or improve the overall condition of the community in the known locations. Recommended actions include developing and implementing a monitoring plan and using results to guide management, and surveys for other occurrences. Consistent monitoring and management of fences, cattle impacts, hydrology and fires is recommended.

Citation

Department of Biodiversity, Conservation and Attractions. (2020). Recovery plans and interim recovery plans *https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/wa-s-threatened-ecological-communities*

Key References

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