Assemblages of Big Springs organic mound springs

TEC Description

The known occurrence of the community comprises a complex system of freshwater seepages and peaty springs with internal moats with broad tidal flats on the seaward margin and cracking clay flats on the landward margin. It occurs in the West Kimberley. A further feature is the scattered clusters of small outlying, densely vegetated mound springs. The main seepage area supports well developed rainforest vegetation dominated by forests of *Terminalia microcarpa* (damson plum). Several mistletoe species (Loranthaceae) have been recorded in the *Terminalia* canopy, which reaches 20 m in places. Other trees present include *Ficus racemosa* (stem-fruit fig), *Ficus virens* (Albayi), *Melaleuca leucadendra* (paperbark), *Pandanus* sp. (screwpine), *Sesbania formosa* (white dragon tree) and *Timonius timon*. Much less common species include *Antidesma ghaesembilla* (Yangu), *Diospyros maritima* and *Nauclea orientalis* (Leichardt tree). The understorey varies from central open glades with turf of Cyperaceae to pure leaf litter under the *Terminalia* canopies. Internal moats support *Acrostichum speciosum* (mangrove fern). The outer perimeter of the large seepage feature is relatively dry in most places with this ring generally dominated by dense thickets of *Melaleuca alsophila* or *Acacia ampliceps* (or both) with scattered *Bauhinia cunninghamii*, *Dichrostachys spicata* (Pied Piper bush) and occasional *Adansonia gregorii* (boab) of small stature. Outlying mound spring islands on tidal flats vary markedly in size and in the diversity of vegetation. Some of the smallest islands consist solely of *Typha domingensis* (bulrush). Larger examples often feature *Pandanus spiralis*, *Sesbania formosa*, *Acacia neurocarpa* and occasionally *Terminalia microcarpa* and *Ficus* sp. (fig), with a range of Cyperaceae. Several islands were noted with unusual associations such as *Typha* sp. growing with the mangrove *Lumnitzera* sp.

Distribution

Big Springs organic mound springs are found along the eastern shore of King Sound at the mouth of the Meda River, north east of Derby.

Department of Biodiversity, Conservation and Attractions (DBCA) Region: Kimberley
DBCA District: West Kimberley
Local Government Authority: Derby-West Kimberley

Habitat Requirements

The community is dependent on maintenance of hydrological processes including continuous flow of freshwater seepages to support the peaty springs.

Indigenous Interests

An Aboriginal Sites Register is kept by the Department of Indigenous Affairs. The West Kimberley is a Nationally Listed Heritage place. Traditional owner group: Warwa.

Conservation Status

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

Threatening Processes

The main threats include cattle incursion and trampling, weed invasion, too frequent fire and potential for hydrological change.

Recovery Plan

A recovery plan is recommended for this community. Priority recovery actions include mapping and control of high priority weeds, implementing an appropriate fire regime, investigating hydrological processes that support the community, and regular monitoring. A cattle exclusion fence installed in 2016 has prevented cattle accessing the largest occurrence.

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

Australia Nature Conservation Agency (1996). A Directory of Important Wetlands in Australia. Second Edition. Australian Nature Conservation Agency, Canberra.

Kenneally K.F., Keighery, G.J. and Hyland B.P.M. (1991). Floristics and phytogeography of Kimberley rainforests, Western Australia. In: Kimberley Rainforests of Australia. McKenzie, N.L., Johnston R.B. and Kendrick P.G. (eds). Surry Beatty and Sons, Norton, N.S.W.

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