



Assemblages of the organic mound springs of the Three Springs area

Summary description

The community occurs in the Three Springs area. The mound spring habitat is characterised by continuous discharge of groundwater in raised areas of peat. The peat and surrounds provide a stable, permanently moist series of microhabitats. There is a high level of heterogeneity of invertebrate fauna assemblages between occurrences, and all are associated with a rich and healthy fauna. The distinctive assemblages are composed of invertebrate groups commonly including beetles, oligochaetes, non-biting midges and bugs. The vegetation component of the community contains many moisture-loving species including an overstorey of *Melaleuca preissiana* (moonah) trees. *Eucalyptus camaldulensis* (river red gum) and *Eucalyptus rudis* (flooded gum) are also found in a number of the mound springs. The shrub layer often includes *Hypocalymma angustifolium* (white myrtle) and *Acacia saligna* (orange wattle) over *Machaerina vaginalis* (sheath twigrush) and other sedges. The herbaceous *Patersonia occidentalis* (purple flag, swamp variant) has been recorded at several occurrences.



Distribution

The springs occurs over a range of 41km from around Eneabba to Arrino.

Department of Biodiversity, Conservation and Attractions (DBCA) Region: Midwest
DBCA District: Turquoise Coast

Local Government Authorities: Shire of Carnamah, Shire of Three Springs

Habitat requirements

The flora and fauna species present in this community are dependent on specific characteristics of the mound springs particularly the layers of peat that have built up over an extended period and the supply of permanent fresh water. The maintenance of hydrological processes in terms of both quality and quantity of water to the mounds is essential to sustain the mound spring community. This community is reliant on the hydrological catchment of the Dandaragan Trough that contributes to the artesian aquifer systems (water under pressure) that support the mound springs.

Indigenous interests

Traditional Owner group: Yamatji

A register of Aboriginal cultural heritage sites kept by the Department of Planning, Lands and Heritage lists the Arrowsmith River as a significant site within the vicinity of the community.

Joint management of Wilson Nature Reserve and seven unnamed nature reserves is undertaken by the Bundi Yamatji Aboriginal Corporation and the State Government through the Yamatji Nation Indigenous Land Use Agreement. The Yamatji Marlpa Aboriginal Corporation represents the Traditional Owners and is the native title representative body for the Yamatji 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 major threats to the community are grazing by cattle, hydrological change (changes in surface water flows), vegetation clearing for mineral extraction and other developments, weed invasion, feral animals, and inappropriate fire regimes.

Recovery plan

An interim recovery plan has been produced for this community, outlining the recovery actions that are required to reduce threats and maintain or improve its overall condition. Priority actions include research and monitoring of the major aquatic invertebrate and flora components, monitoring local hydrological changes, implementing strategies for fire management and weed control, and monitoring for *Phytophthora* disease.

Key reference

Rees, R. & Broun, G. (2005). *Assemblages of Organic Mound Springs of the Three Springs Area: Interim Recovery Plan 2005–2010* (Interim Recovery Plan No. 196). Department of Conservation and Land Management.

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