



Shrublands and woodlands on Muchea Limestone of the Swan Coastal Plain

Summary description

The community occurs on the heavy soils of the eastern side of the Swan Coastal Plain and has been recorded between Beermullah and Wokalup. Known patches include wetland and well-drained habitats, in a variety of landforms. It is defined on the basis of substrates with a limestone influence. Many of the species are commonly associated with the limestone soils that occur on the coast, and do not generally occur further inland. Typical and common native species in areas of best developed limestone are: the tree *Casuarina obesa* (swamp sheoak); the mallees *Eucalyptus decipiens* (redheart) and *Eucalyptus foecunda* (narrow-leaved red mallee); the shrubs *Melaleuca huegelii* (chenille honey-myrtle), *Alyogyne huegelii* (lilac hibiscus), *Grevillea curviloba* (endangered), *Grevillea evanescens* (priority 1) and *Melaleuca systema* (coastal honey-myrtle); and the herb *Thysanotus arenarius* (sand-dune fringed lily). Where the limestone substrate is less well developed and limestone may occur as nodules or chunks, the flora assemblages can be influenced by other characteristics of the substrate, such as clay content, with the presence of calcicoles such as *Thysanotus arenarius*, *Gahnia trifida* (coast saw-sedge), *Eremophila glabra* (tar bush) and *Melaleuca brevifolia* (mallee honey-myrtle) providing evidence of the limestone influence. *Melaleuca huegelii* shrublands, *Eucalyptus decipiens* mallee, *Casuarina obesa* woodlands and *Melaleuca brevifolia*, *Melaleuca systema* or *Melaleuca viminea* shrublands have been recorded on Muchea Limestone.



Distribution

The community occurs across a range of approximately 220km between Beermullah and Wokalup on the Swan Coastal Plain.

Department of Biodiversity, Conservation and Attractions (DBCA) Regions: Swan, South West
DBCA Districts: Swan Coastal, Wellington

Local Government Authorities: City of Canning, City of Gosnells, City of Swan, Shire of Chittering, Shire of Gingin, Shire of Harvey

Habitat requirements

The substrates include mixtures of limestone, clay and sands. Where the best developed limestone occurs, near Gingin, the plant community is located on shallow black clay or sandy clay soils on limestone. The soils can be mounded up above the surrounding area and some areas are likely to reflect areas of spring activity in the past, where carbonates have precipitated out of solution. The Muchea Limestone soils sampled to date have pH levels of between 7.8 to 8.3, which reflects the alkalinity of the limestone influence in the soil profile.

Indigenous interests

Traditional Owner groups: Pinjarup, Whadjuk and Yued Noongar

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

The area is covered by the Gnaala Karla Booja Indigenous Land Use Agreement (ILUA), the Whadjuk People ILUA, and the Yued ILUA as part of the South West Native Title Settlement, which formally recognises Noongar people as the Traditional Owners of the south-west region. The ILUA regions are supported by the Gnaala Karla Booja Aboriginal Corporation, the Whadjuk Aboriginal Corporation, the Yued Aboriginal Corporation and umbrella group, the South West Aboriginal Land and Sea Council.

Conservation status

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

National: Listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Threatening processes

The major threats to the community are land clearing, weed invasion, grazing by introduced herbivores (cattle, rabbits and pigs), inappropriate fire regimes, and changes in hydrology such as salinisation and altered patterns of inundation.

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 monitoring and managing water levels and quality, monitoring flora and fauna, managing weeds, and developing and implementing a fire management strategy.

Key references

English, V. & Blyth, J. (2000). *Shrublands and Woodlands on Muchea Limestone Interim Recovery Plan 2000–2003*. Interim Recovery Plan No. 57, Department of Conservation and Land Management.

Gibson, N., Keighery, B., Keighery, G., Burbidge, A., & Lyons, M. (1994). *A floristic survey of the Southern Swan Coastal Plain*. Unpublished report for the Australian Heritage Commission prepared by the Department of Conservation and Land Management and the Conservation Council of Western Australia (Inc.).

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