



Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain

TEC 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 moit) and *Eucalyptus foecunda* (narrow-leaved red mallee); the shrubs *Melaleuca huegelii* (chenille honey-myrtle), *Alyogyne huegelii* (lilac hibiscus), *Grevillea curviloba* ssp. *incurva* (narrow curved-leaf grevillea) (endangered), *Grevillea curviloba* ssp. *curviloba* (curved-leaf grevillea) (critically endangered) and *Grevillea evanescens* (priority 1), *Melaleuca systema* (narrow-leaved paperbark); and the herb *Thysanotus arenarius* (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 are recorded on Muchea Limestone.



Distribution

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

DBCA Districts: Swan Coastal and Wellington

Local Government Authorities: Shires of Gingin, Chittering and Harvey, and Cities of Swan, Canning and Gosnells

Habitat Requirements

Where distinguished at the scale of the mapping the community can occur within areas mapped as Muchea Limestone or Plain limestone deposits in the geology mapping. 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 are frequently 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 in the soil profile. The substrates include mixtures of limestone, clay and sands.

Indigenous Interests

An Aboriginal Sites Register is kept by the Department of Indigenous Affairs and lists a suite of significant sites in close proximity to a suite of occurrences.

Conservation Status

Listed as critically endangered under WA Minister Environmentally Sensitive Areas list in policy. Also listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Threatening Processes

The major threats to the community are weed invasion, grazing, inappropriate fire regimes, clearing, and possibly changes to hydrology such as salinisation and altered patterns of inundation.

Recovery Plan

An interim recovery plan has been produced, and outlines 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 monitoring and managing water levels and quality; monitoring the flora and fauna of the springs; managing weeds; and developing and implementing a fire management strategy.

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 Reference

Department of Conservation and Land Management (2000). Interim Recovery Plan 2000-2003 for the Shrublands and Woodlands on Muchea Limestone. Interim Recovery Plan No. 57. Perth.

Gibson, N., Keighery, B., Keighery, G., Burbidge, A and 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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