



The vegetation of Western Australia at the 1:3,000,000 scale explanatory memoir. Second edition

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Background

A new colour vegetation map for Western Australia has been developed at a level of detail appropriate for publishing at the 1:3,000,000 scale. The memoir that accompanies the map is based on the state-wide mapping carried out by John Beard between 1964 and 1981, which was been digitised at the 1:250,000 scale. The resulting 900 vegetation associations were then classified (according to structure, physiognomy, floristics and in some cases ecological and regional attributes), largely following the framework developed by Beard, into 50 major vegetation types, five categories of bare and poorly-vegetated ground and 20 vegetation mosaics (combinations of vegetation types). The memoir explains how the data were derived and describes the units of vegetation shown on the map with the aid of individual distribution maps and photographs (for example Fig 1). The memoir also includes details about the development and current delineation of the bioregions known as the IBRA (Interim Biogeographic Regionalisation of Australia). The description of vegetation types are referenced to these regions.

This publication culminates and acknowledges the extraordinary vision and commitment of John Beard in providing Western Australia with a comprehensive vegetation map.

Findings

Vegetation types include the tall forest of karri (*Eucalyptus diversicolor*, Figure 1) in the high rainfall zone; the forests and woodlands dominated by *Eucalyptus spp.* throughout the south-west, Banksia woodlands on the coast near Perth, species rich sclerophyllous shrublands north of Perth and along the south central coast, vast areas of low Acacia (mulga) woodlands in the interior and hummock grasslands of *Triodia* (spinifex) with scattered trees and shrubs (Fig 2) in the arid zone. In the northern Kimberley various grasslands of *Sorghum*, *Astrelba*, *Chrysopogon* and *Triodia* often with an emergent tree cover of over 10%, are described as savanna and occur on sandstone and basalt substrates.



Figure 2. Low tree-steppe (photo by Ladislav Mucina).



Figure 1 Karri forest (photo Ladislav Mucina).

Saltbush, bluebush and samphire shrublands occur on alkaline soils throughout the State dominating the Nullarbor Plain in the south-east as well as being associated with inland drainage systems. Mangroves fringe the north and northwest coastline and isolated pockets of tropical rainforest exist in the Kimberley.

The five most extensive vegetation types account for the vegetation cover of 55% of the State:

- low woodland, open low and sparse woodland dominated by *Acacia aneura* (*sens. lat.*, mulga), which covers over 36 million ha and extends over eight bioregions;
- a mosaic of open tree-steppe and open shrub-steppe that covers over 25.5 million ha and dominates three desert bioregions;
- shrub-steppe of hummock grassland dominated by *Triodia* spp. with scattered shrubs of *Acacia* spp. and *Grevillea* spp., mapped over nearly 25 million ha;
- scrub, open scrub and sparse shrub of *Acacia* spp., *Melaleuca* spp. and other species, mapped widely over the State and that covers over 15 million ha;
- woodlands of the Avon Wheatbelt Bioregion, Coolgardie Bioregion, riverine areas and the Northern Kimberley Bioregion that cover nearly 13.5 million ha.

The six most restricted vegetation types identified by the classification process are:

- freshwater lakes, which total nearly 22,700 ha;
- samphire with scattered trees or low trees, mapped over nearly 39,000 ha;
- pockets of low forest of acacia, Rottnest cypress, coastal moort or mixed tropical forest (rain forest), which cover 55,600 ha;
- sedgeland of the South West (59,000 ha);
- thickets with medium open woodland or scattered trees (62,600 ha);
- low woodland or open low woodlands over bluebush and/or saltbush (87,700 ha).

Management implications

The 1:3,000,000 scale map (Figure 3) gives a general impression of the vegetation of the State, as well as aspects of the geology, geomorphology and climate patterns. It demonstrates the relationship between the vegetation and the bioregions. It provides one of the vegetation base-layers for NatureMap <http://naturemap.dpaw.wa.gov.au>. The spatial version of this map (physiognomic_veg_groups.lyr) is available on application to the Spatial Data Administrator (GIS) Western Australian Department of Parks and Wildlife Geoffrey.Banks@dpaw.wa.gov.au. The vegetation database (pre_european.lyr) that underpins this map is available from Spatial Data Administrator (GIS) Department of Agriculture and Food gis@agric.wa.gov.au. This more complex layer is currently being used for a wide range of research and planning purposes, including the on-going development of the terrestrial conservation reserve system. It provides a baseline for more detailed mapping using remote sensing methods now available. More detailed vegetation datasets are required to adequately assess the conservation status of vegetation communities, especially those threatened by clearing, disease and changing climate. Sound vegetation mapping is essential for effective conservation of Western Australia's globally unique, diverse and fragile native vegetation communities.

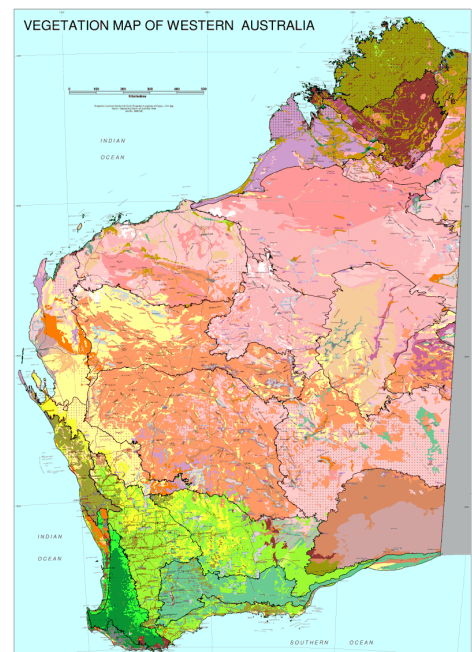


Figure 3 Vegetation map of WA

The map and reference;

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