

Banksia woodlands as a threatened ecological community

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In Western Australia, Banksia woodlands are confined to the Mediterranean climatic zone and are most extensive on the Swan Coastal Plain. Here they form the defining plant community of the bioregion. They are the iconic vegetation of Perth occurring on nearly all major geomorphic zones present in the Perth Metropolitan Region (PMR). At first glance these are low stature woodlands dominated by a small range of 10 Banksia tree species, only 4 in the PMR. However, they have a highly variable and diverse understory, and are very species rich, containing from 30-90 species per 100m². On the Swan Coastal Plain over 1130 natives, comprising shrubs (42%), herbs (40%) and Rushes/sedges (11%) are recorded from Banksia woodlands. Of these 86% are endemic to the Southwest. Many of these species have distinct variants and are species complexes. In the PMR over 600 native species are recorded in Banksia woodlands of a total flora of 1800 species, making these woodlands a very significant component of Perth's biodiversity. The woodlands and their component trees have been the subject of several symposia and books from 1989 (organised by the Royal Society) onwards.

Originally estimated at covering 6,230 km², Banksia woodlands have been reduced by over 65% in aerial extent mainly by clearing for agriculture, urban expansion, mining and infrastructure. Because of this loss, the Swan Coastal Plain Banksia woodlands have been listed as Endangered under the Commonwealth EPBC Act. Eleven Floristic Community Types of Banksia dominated woodlands occur in the PMR, reflecting the geomorphology and geographic spread of the Swan Coastal Plain. Of these communities three are endangered, and two are priority listed under Western Australian legislation.

Apart from continuing clearing, threats to these woodlands include, dieback disease, weeds, nutrient enrichment, inappropriate fires and climate change. These threats have resulted in past and unfortunately continuing loss of plant species from the Perth region. A study in 2015 based on all known authenticated records of vascular plants from the Western Suburbs found that 690 native species were recorded, however, 141 (over 20%) were now locally, regionally or globally extinct, including some common Banksia woodland species.