



Draft Forest Management Plan 2024–2033

Fact Sheet: Biodiversity



Granite outcrops provide ecosystem diversity within forest landscapes.

A key focus of the *Draft Forest Management Plan 2024-2033* is to value and protect the biodiversity of our south-west forests. This is captured within the strategic goals of the plan.

Biodiversity refers to the variety and variability of living organisms and the ecosystems of which they are a part.

Globally, forests are recognised as being particularly important for terrestrial biodiversity. Forests cover almost a third of the global land area and support approximately 65 per cent of the world's terrestrial taxa. The 2.4 million hectares of the forest management plan area are part of the broader Southwest Australian Floristic Region, globally recognised for its rich diversity of plants and animals.

The distinctive biodiversity of Western Australia's south-west is the result of high number of species only found in this region, different assemblages of species in different locations, the survival of some ancient groups of plants and animals through to the present, and some unique adaptations to local environments, such as the relationships between some plants and soil fungi and bacteria.

The Department of Biodiversity, Conservation and Attractions' FORESTCHECK project found the following species diversity in south-west jarrah forests:

- nearly 80 per cent of the species recorded were fungi, cryptogams, and invertebrates
- 17 per cent were vascular plants
- 3 per cent were birds and
- less than 2 per cent were frogs, reptiles and mammals.

This is consistent with global biodiversity understanding.



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Bidiverse karri forest.

Ecosystem diversity

Forest ecosystems are the combination of species, soils, geology, topography, and climate specific to any one site, with trees as the dominant vegetation. In the south-west:

- There are over 312 vegetation complexes in the forest area.
- Vegetation types often form a mosaic that varies over relatively short distances.
- Some forest ecosystems contain remnants of rainforest communities from over 65 million years ago when this region was part of the supercontinent Gondwana.
- Variation of landscapes contributes to ecosystem diversity. For example, granite outcrops support distinctive ecological communities shaped by microhabitats.
- There are 33 threatened ecological communities (TECs) recorded in the planning area, and a further 68 priority ecological communities (PECs). The TECs and PECs in the planning area are described based on the types of plants, animals, macrofungi and microbes they support.

Species diversity

The relatively high diversity of plant and animal species in the south-west is an important factor in its recognition as a global biodiversity hotspot. Numbers of species in the forest management plan area include:

- over 3750 vascular plant species and subspecies/varieties
- 660 species of fungi and 265 species of lichens in the jarrah forest alone
- an estimate of tens of thousands of terrestrial invertebrate species (insects, spiders, worms etc.), many of which are not yet named or discovered
- 89 reptile and 25 frog species
- 141 native terrestrial bird and 113 waterbird species
- 34 species of native mammals, including nine species of bats.

Endemic species: while nearly 50 percent of plant species are endemic to the Southwest Australian Floristic Region, the forests are particularly important for endemic mammal species such as ngwayir (western ringtail possum) and quokka; and for most of the 13 endemic bird species such as the kaarak (forest red-tailed black cockatoo) and red-capped parrot.

Short-range endemics: are found only in small, localised areas. Many short-range endemic plant species are associated with features such as granite outcrops, while some invertebrate (e.g. mygalomorph spiders) and frog species (e.g. white-bellied frog) have very specific habitat requirements.

Genetic diversity

The high species richness in the plants in the south-west region is underpinned by high levels of genetic diversity both in species that are widespread across the forest management plan area, and those found only in restricted areas. This is generally due to the ancient origin and long-term persistence of those species, which maintains genetic diversity across populations.

The south-west is renowned for the high prevalence of short-range endemics, particularly invertebrates, where the complete range of genetic diversity for a species may be found in one or two localised populations.

The management of Western Australia's south-west forests will be outlined in the *Forest Management Plan 2024-2033*.

For more information visit our website at dbca.wa.gov.au/forest-management-plan