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Australian forest profiles

Eucalypt



Eucalypts are iconic Australian forest trees. Ninety-two million hectares of the Eucalypt forest type occurs in Australia, and forms three-quarters of the total native forest area.

The term 'eucalypt' includes approximately 900 species in the three genera *Eucalyptus*, *Corymbia* and *Angophora*. Almost all eucalypt species are native to Australia. Eucalypts evolved from rainforest ancestors,

adapting to an environment in which drought, nutrient-poor soils and fire were increasingly common.

Eucalypts have oil-rich foliage that burns readily, and they display a range of strategies to survive and recover from fire. The majority of eucalypt species are evergreen, retaining their leaves year-round.



River red gum (*Eucalyptus camaldulensis*) forest, Murray River, New South Wales
Claire Howell

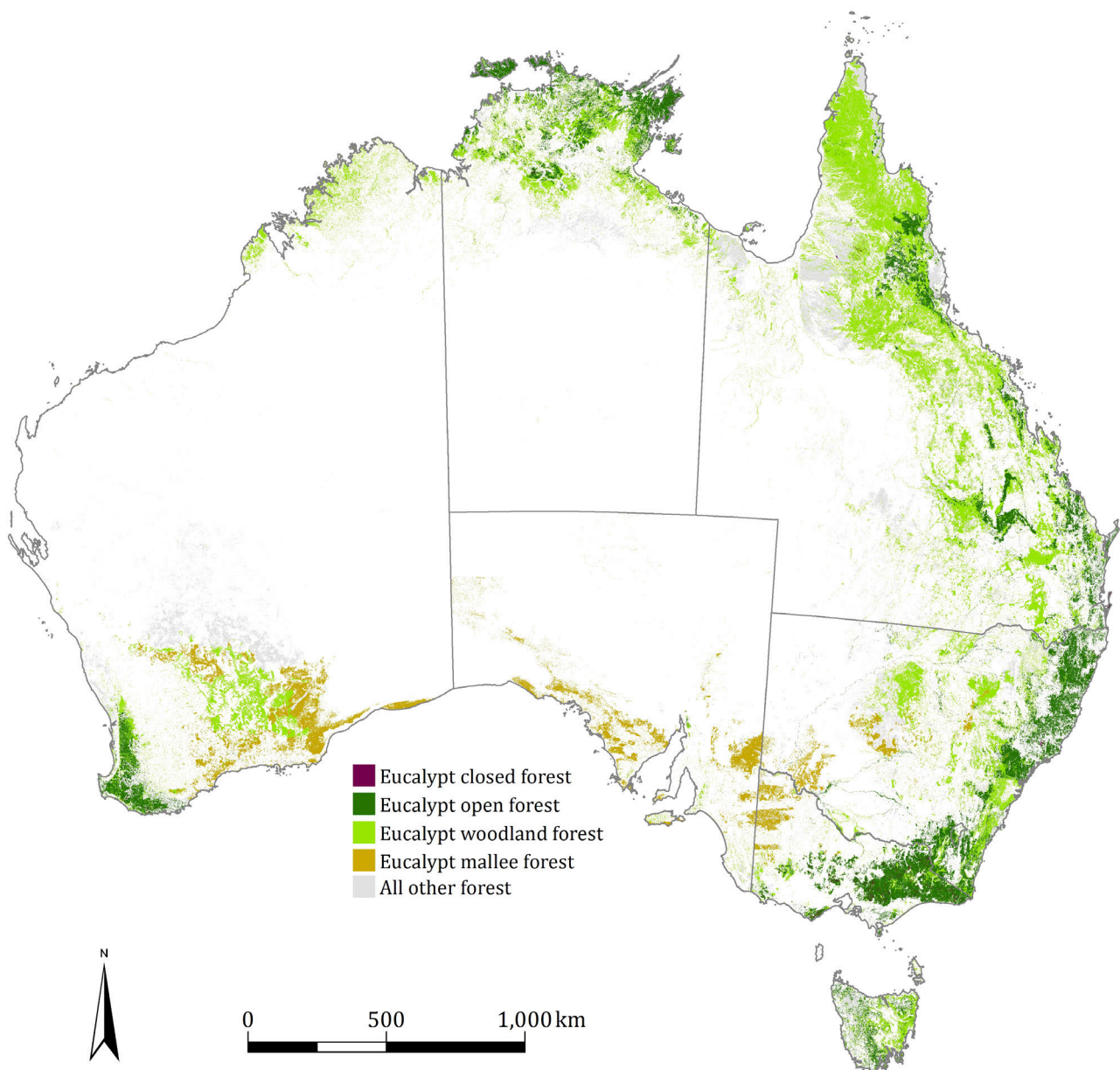
Distribution and ownership

The Eucalypt forest type is found in all states and territories and across all but the continent's driest regions (Map 1).

A total of 35 million hectares (38 per cent) of the Eucalypt forest type is in Queensland and 16 million hectares (18 per cent) are in New South Wales. Thirty-three million hectares (36 per cent) are on leasehold land and 26 million hectares (27 per cent) are on private land (Table 1). Seventeen million hectares (18 per cent) are on nature conservation reserves.

River red gum (*E. camaldulensis*) is the most widely distributed eucalypt, and is found in all Australian mainland states. The forests of south-eastern Australia contain a wide range of dominant eucalypt species, including major commercial timber species such as mountain ash (*E. regnans*), messmate stringybark (*E. obliqua*), alpine ash (*E. delegatensis*), silvertop ash (*E. sieberi*), blackbutt (*E. pilularis*) and spotted gum (*C. maculata*).

MAP 1 Distribution of Eucalypt native forest, 2013



Projection: Albers equal-area with standard parallels 18°S and 36°S.

Source: ABARES (2016). Map compiled by ABARES 2016

[Open a high-resolution version of Map 1 that can be saved as a PNG file](#)

Eucalypt forest in south-western Australia are dominated by jarrah (*E. marginata*) and karri (*E. diversicolor*). Typical eucalypts of northern Australia include Darwin woollybutt (*E. miniata*) and Darwin stringybark (*E. tetradonta*).

Many species of multi-stemmed mallee eucalypts are found across the inland regions of southern Australia. In inland arid zones, eucalypts are confined to the edges of rivers. Eucalypts are generally not found in the tropical and subtropical rainforests in eastern Australia, or in the warm and cool temperate rainforests of Victoria and Tasmania.

TABLE 1 Ownership of Eucalypt native forest, by state and territory, 2013 ('000 hectares)

| Tenure | ACT | NSW | NT | Qld | SA | Tas. | Vic. | WA | Australia |
|-----------------------------|------------|---------------|---------------|---------------|--------------|--------------|--------------|---------------|---------------|
| Leasehold | 8 | 3 876 | 3 819 | 21 387 | 1 126 | 9 | 2 | 2 923 | 33 150 |
| Multiple-use public forest | 3 | 1 684 | 0 | 2 433 | 20 | 709 | 2 901 | 1 266 | 9 016 |
| Nature conservation reserve | 112 | 4 678 | 5 | 2 869 | 1 438 | 714 | 2 913 | 4 181 | 16 910 |
| Other Crown land | 0 | 59 | 222 | 797 | 46 | 224 | 210 | 5 360 | 6 919 |
| Private | 0 | 6 038 | 8 205 | 6 844 | 1 398 | 807 | 1 124 | 1 090 | 25 507 |
| Unresolved tenure | 0 | 1 | 2 | 441 | 19 | 19 | 5 | 0 | 487 |
| Total | 123 | 16 337 | 12 254 | 34 771 | 4 047 | 2 481 | 7 155 | 14 821 | 91 989 |

Note: Totals may not tally due to rounding. The six forest tenure categories are defined in *Australia's State of the Forests Report 2013*.
Source: ABARES (2016)

[Download Table 1 data as an Excel workbook](#)

Forest structure

The Eucalypt forest type is divided into 11 forest subtypes based on the form of individual trees, crown cover and tree height. Eucalypts grow in two forms: single-stemmed trees and multi-stemmed mallee.

Eucalypt native forest comprises 80 million hectares of non-mallee trees and 12 million hectares of multi-stemmed mallee (Tables 2 and 3).

Sixty-six percent (53 million hectares) of non-mallee Eucalypt forest is woodland forest and 85 per cent (68 million hectares) is medium-height forest (Figure 1).

Mature mountain ash (*E. regnans*) trees are usually between 55 and 75 metres high and are an example of tall forest. Some mountain ash trees can grow to more than 90 metres, making this the tallest plant species in Australia, the tallest hardwood in the world, and the tallest flowering plant in the world.

Ninety-three per cent (11 million hectares) of mallee Eucalypt forest is woodland forest and 80 per cent (10 million hectares) is low forest (Figure 2).

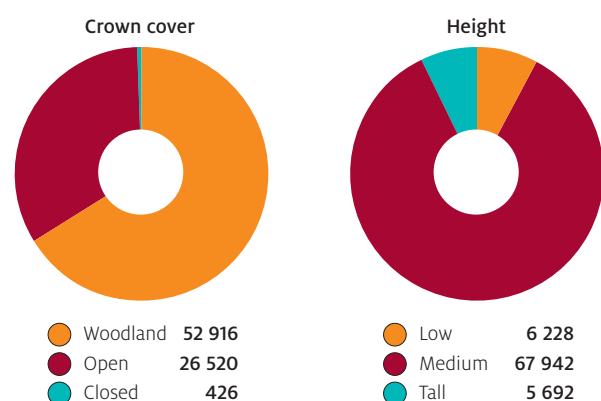
Native forests are divided into three classes based on crown cover:

- woodland forest** (20 to 50 per cent crown cover)
- open forest** (>50 to 80 per cent crown cover)
- closed forest** (>80 to 100 per cent crown cover)

and three classes based on mature tree height:

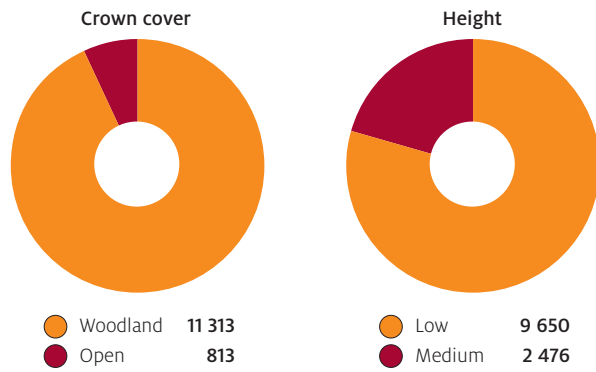
- low** (2 to 10 metres)
- medium** (>10 to 30 metres)
- tall** (>30 metres).

FIGURE 1 Structure of non-mallee Eucalypt native forest, 2013 ('000 hectares)



Source: ABARES (2016)
[Download Figure 1 data as an Excel workbook](#)

FIGURE 2 Structure of mallee Eucalypt native forest, 2013 ('000 hectares)



Source: ABARES (2016)
[Download Figure 2 data as an Excel workbook](#)

TABLE 2 Area of non-mallee Eucalypt native forest, by crown cover and height, 2013 ('000 hectares)

| | Woodland | Open | Closed | Australia |
|--------------|---------------|---------------|------------|---------------|
| Low | 4 016 | 2 173 | 39 | 6 228 |
| Medium | 48 246 | 19 450 | 247 | 67 942 |
| Tall | 655 | 4 897 | 141 | 5 692 |
| Total | 52 916 | 26 520 | 426 | 79 862 |

Note: Totals may not tally due to rounding.
 Source: ABARES (2016)
[Download Table 2 data as an Excel workbook](#)

TABLE 3 Area of mallee Eucalypt native forest, by crown cover and height, 2013 ('000 hectares)

| | Woodland | Open | Closed | Australia |
|--------------|---------------|------------|----------|---------------|
| Low | 8 869 | 782 | 0 | 9 650 |
| Medium | 2 444 | 32 | 0 | 2 476 |
| Tall | 0 | 0 | 0 | 0 |
| Total | 11 313 | 813 | 0 | 12 127 |

Note: Totals may not tally due to rounding.
 Source: ABARES (2016)
[Download Table 3 data as an Excel workbook](#)



Sub-alpine eucalypts, Victorian high country
 Tony Hunn

Importance and uses

Eucalypt native forests are important for the conservation of Australia’s rich biodiversity. They support many forest-dwelling or forest-dependent species of flora and fauna. This includes species endemic to Australia and species that are listed as threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Red-tailed black-cockatoo: a eucalypt specialist

The red-tailed black-cockatoo (*Calyptorhynchus banksii*) is a forest-dwelling member of the parrot family that requires large tree hollows for nesting. Two subspecies are listed as threatened: the south-eastern subspecies (*C. b. graptogyne*) and the forest subspecies (*C. b. naso*). The south-eastern red-tailed black-cockatoo is found only in western Victoria and south-east South Australia. It inhabits eucalypt woodlands of varying species, but feeds mainly on seeds from desert stringybark (*E. arenacea*) and brown stringybark (*E. baxteri*). The forest red-tailed black-cockatoo is found only in south-west Australia and feeds mainly on seeds from jarrah (*E. marginata*) and karri (*E. diversicolor*). Both subspecies face threats from habitat loss and limited availability of nesting hollows.



Female and male forest red-tailed black-cockatoo (*Calyptorhynchus banksii naso*) from south-west Western Australia
 Bill Bell

Indigenous Australians have traditionally used nearly all parts of eucalypt trees. Leaves and leaf oils have medicinal properties, and saps can be used as adhesive resins. Bark and wood have been used for making vessels, tools and weapons such as spears and clubs.

Because of the size, wood quality and widespread distribution and abundance of eucalypts, eucalypts are a significant source of wood. The variability in wood colour, shape, hardness, weight, strength and durability makes eucalypt useful for many applications. Sawn wood is used in large-scale construction, general building, furniture-making and wood-turning. Engineered wood products such as laminated veneers, fibreboards and particleboards are used for construction and flooring. Eucalypt wood is also used for chipping, paper pulp and fuelwood. Oils distilled from eucalypt leaves are used for aromatherapy and in perfumes.

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Tall forest of flooded gum (*E. grandis*), mid-north coast, New South Wales
Claire Howell

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This is one in a series of profiles on Australia's major forest types. It has been compiled using information from the Australia's State of the Forests Report series and subsequent updates. The latest report, Australia's State of the Forests Report 2013, and the profiles, are available at agriculture.gov.au/abares/forestsaustralia.

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