

## MVG 3—EUCALYPT OPEN FORESTS

- Vary from 10 m to 30 m reflecting the range of monsoonal, tropical, subtropical and temperate climatic conditions in which they occur.
- Majority dominated by several species of eucalypts occurring in association with each other.
- Form the bulk of Australia's forested country and are the primary resource for the timber industry—mainly from state forests.
- In comparison to Eucalypt Tall Open Forests (MVG 2), Eucalypt Open Forests allow more light to penetrate the canopy providing scope for variability from a grass-dominated to shrub-dominated understoreys. Generally they have a shrubby understorey which is low to moderate in height. On drier sites they may have a grassy understorey with scattered shrubs and/or cycads.
- Generally the soil nutrient status determines the nature of the associated understorey in this MVG, with sclerophyllous shrubs on the nutrient-poor soils and grassy (savanna) understorey on the higher nutrient soils (Specht and Specht, 1999).



*Eucalyptus globulus* (blue gum) grassy forest, Bangor, Forestier Peninsula, Tas

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### Facts and figures

<b>Major Vegetation Group</b>	MVG 3—Eucalypt Open Forests
<b>Major Vegetation Subgroups (number of NVIS descriptions)</b>	Eucalypt open forests with a shrubby understorey(747) Eucalypt open forests with a grassy understorey (370) Eucalypt tall open forests and open forests with ferns, herbs, sedges, rushes or wet tussock grasses (116)
<b>Typical NVIS structural formations</b>	Mid open forest Mid vineland Mid palmland.
<b>Number of IBRA regions</b>	51
<b>Most extensive in IBRA region (Est. pre-1750 and present)</b>	Est. pre-1750 and Present: South Eastern Highlands (NSW and Vic)
<b>Estimated pre-1750 extent (km<sup>2</sup>)</b>	394 280
<b>Present extent (km<sup>2</sup>)</b>	272 121
<b>Area protected (km<sup>2</sup>)</b>	61 661

### Species

Northern eucalypt open forests are dominated by *Eucalyptus tetradonta* (Darwin stringybark), *E. miniata* (Darwin woollybutt) and *E. nesophila* (Melville Island bloodwood). The woody understorey and associated species differ through the presence of *Terminalia*, *Buchanaia*, *Livistona* (palms) and cycads. In some areas northern forests support an understorey dominated by grasses such as species of *Triodia*, *Plectrachne* and *Sorghum*.

Southern eucalypt open forests are often dominated by either sclerophyllous shrubs or grasses such as *Stipa* and *Danthonia* (or *Austrostipa* and *Austrodanthonia* respectively, depending on their taxonomic acceptance). However they also include the world-renowned *E. marginata* (jarrah) forests in the south-west of Western Australia. These occur as pure stands and in association with *E. wandoo* (wandoo) and *Corymbia colophylla* (marri). In south-eastern Australia a diverse suite of eucalypt species are found, but some species may be widespread:

- *E. baxteri* (brown stringybark) and *E. obliqua* (messmate stringybark) in South Australia and Victoria;
- *E. macrorhyncha* (red stringybark), and *E. sideroxylon* (red ironbark), *E. sieberi*

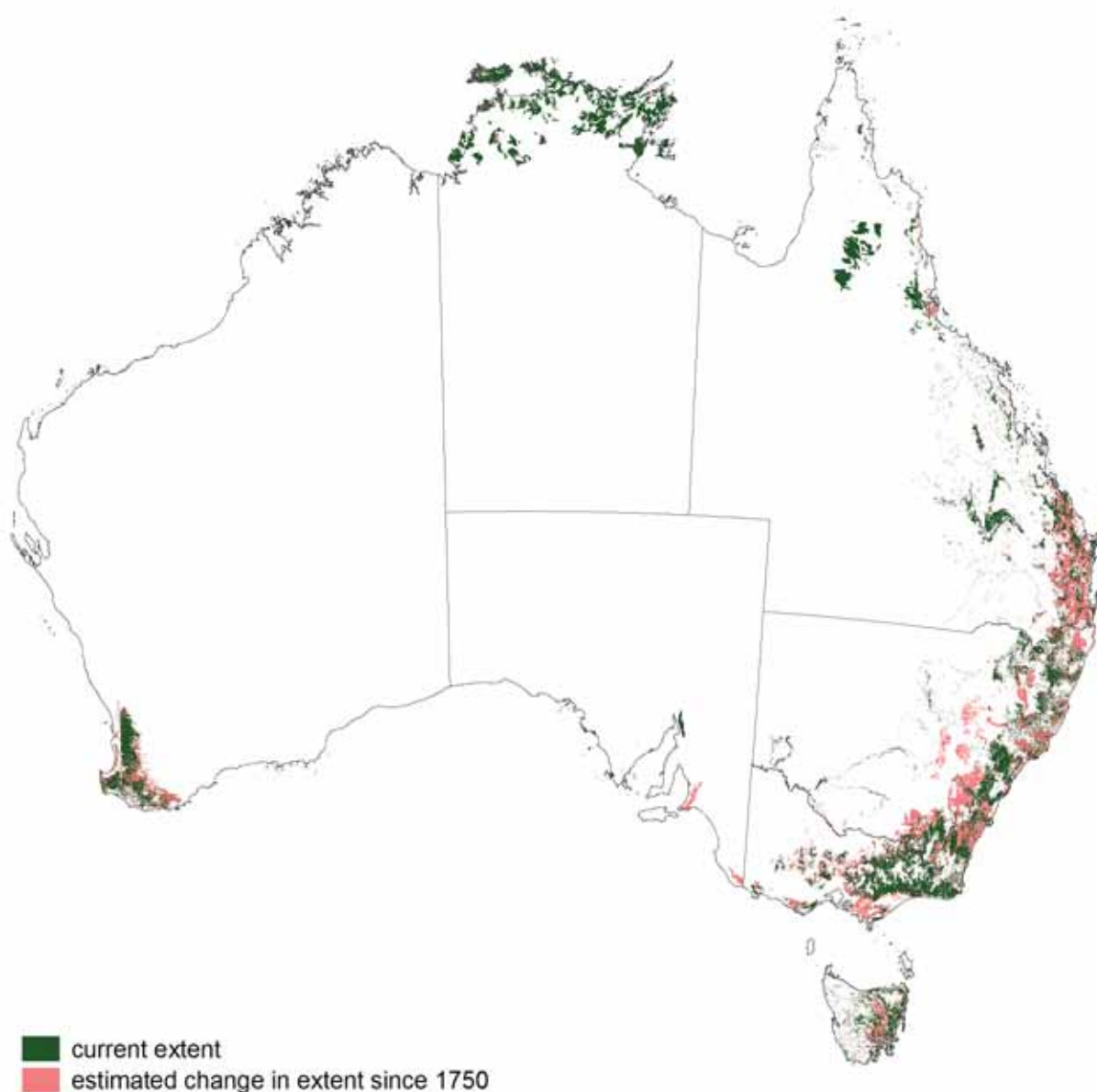
(silvertop ash), *E. radiata* (narrow-leaved peppermint) and *E. dives* (broad-leaved peppermint) in Victoria and New South Wales;

- *E. crebra* (narrow-leaved red ironbark), *Angophora* spp. and *Corymbia gummifera* (red bloodwood), *C. maculata* (spotted gum) and *E. acmenoides* (white mahogany) in New South Wales and Queensland;
- *C. citriodora* (lemon-scented bloodwood) and *C. intermedia* (pink bloodwood) in Queensland;
- *E. camaldulensis* (river red gum) as an open forest is dominant along water courses in South Australia, inland New South Wales and Victoria;
- *E. microtheca* (coolabah) and *E. ochrophloia* (yapunya) occurs along watercourses and seasonally inundated flats in the north-east of New South Wales; and
- Dominant species in Tasmania include *E. globulus*, *E. viminalis*, *E. obliqua*, *E. delegatensis*, *E. pauciflora*, *E. tenuiramis*, *E. pulchella*, *E. ovata*, *E. amygdalina* and *E. nitida*.

## MVG 3—EUCALYPT OPEN FORESTS

### Geography

- Usually occur in monsoonal, tropical, subtropical and temperate regions of Australia and within 200 km of the coast or along major water courses.
- Occur around the edges of Australia from the Northern Territory, Queensland, through New South Wales, Victoria and Tasmania, to the southern areas of South Australia and Western Australia. There are small outliers in northern Queensland and along rivers in central and western New South Wales.
- Largest areas occur in New South Wales (74 698 km<sup>2</sup>), Queensland (63 072 km<sup>2</sup>), the Northern Territory (57 198 km<sup>2</sup>) and Victoria (38 475 km<sup>2</sup>).
- Largest MVG in Tasmania, Victoria and the Australian Capital Territory.



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### Change

- Approximately 31% of the estimated pre–1750 extent cleared accounting for 12% of total clearing in Australia.
  - Approximately 122 000 km<sup>2</sup> cleared since European settlement including large areas in south-east Queensland. Only 20% remains of the small estimated pre–1750 distribution in South Australia.
  - Extensively cleared in the latter half of the nineteenth century for timber production, both for export (e.g. jarrah) and local markets (e.g. blackbutt), or cleared or ringbarked for agriculture and grazing.
  - Continued loss of these communities would have occurred had not substantial areas been set aside in crown land reserves either for timber production or, later, for nature conservation.
- The reservations for state forests are a good example of the foresight of resource managers at the time.
- Change in the Eucalypt Open Forests can result from direct or indirect effects of forest management (e.g. shifts in structure and floristics resulting from timber harvesting regimes and regeneration strategies) and the effects of pests and diseases (e.g. *Phytophthora cinnamomi* in the *Eucalyptus marginata* forests in Western Australia and the *E. baxteri*/*E. obliqua* forests in Victoria).
  - Many of the northern forests have been influenced by grazing activities but remain largely uncleared, with the exception of some areas (e.g. near Darwin) that are increasingly under pressure from agriculture and urbanisation.



Photo: M. Fagg

Near Awaba (Newcastle area), NSW

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### Tenure

A large proportion of the eucalypt open forests remain in state forests.

<b>Australian Capital Territory:</b>	largely in protected areas
<b>New South Wales:</b>	leasehold land in the western part of the state; coastal strip distribution largely in protected areas, state forests and freehold land
<b>Northern Territory:</b>	protected areas, leasehold land and freehold land
<b>Queensland:</b>	primarily on freehold land; less in protected areas, leasehold land and state forests
<b>South Australia:</b>	protected areas and state forests, some small fragments on freehold land
<b>Tasmania:</b>	protected areas and state forests
<b>Victoria:</b>	protected areas and state forests, some freehold land
<b>Western Australia:</b>	large areas in state forests, protected areas, fragmented areas on freehold land

### Key values

- Biodiversity a wide range of flora and fauna including many endemic species.
- Geodiversity as a result of their wide ranging occurrence.
- Remnant populations of a wide range of vertebrate and invertebrate fauna species.
- Timber (e.g. hardwoods for framing and flooring).
- Ecotourism (e.g. bushwalking, walkways) often in extensive areas of forests in Western Australia, South Australia, Tasmania and Queensland.
- Tourist/visitor management.
- Fire regimes (protection of life and property versus management of biological values).
- Disease.
- Weed control.
- Feral animal control.
- Forest management for multiple values.

The Eucalypt Open Forests tend to attract great interest from the wider community and tourists, possibly as a result of their proximity to major coastal city populations in Australia. In recent years this increased community interest has led to changes in forest management in some areas, with a shift towards plantation forestry and increased dedication of conservation areas within this MVG.

### Management considerations

- Clearing/edge effects.
- Wildlife corridor re-establishment between remnants.
- Isolation and faunal barriers caused by roads/powerlines.

### References

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- Brooker M.I.H. and Kleinig D.A. (1999) *Field guide to Eucalypts, South-eastern Australia, Volume 1*, 2nd edition. Bloomings Books, Melbourne, 353pp.
- National Land & Water Resources Audit (2001) *Australian Native Vegetation Assessment 2001*. National Land & Water Resources Audit, Canberra, 332pp.
- Specht R.L. and Specht A. (1999) *Australian Plant Communities. Dynamics of Structure, Growth and Biodiversity*, Oxford University Press, 492pp.

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### Data sources

Interim Biogeographic Regionalisation for Australia (IBRA), Version 6.1.

National Vegetation Information System, Version 3.0.

1996/97 Land Use of Australia, Version 2.

Collaborative Australian Protected Areas Database —CAPAD 2004—Terrestrial.

### Notes

- This fact sheet should be read in conjunction with Eucalypt Tall Open Forests (MVG 2) and Eucalypt Low Open Forests (MVG 4).
- See the [Introduction to the MVG fact sheets](#) for further background on this series.



Photo: M. Bolton

*Eucalyptus marginata* (jarrah), south-west WA