

MVG 14—MALLEE WOODLANDS AND SHRUBLANDS

- Mallee eucalypts grow from a lignotuber, and are multi-stemmed trees found in harsh site conditions with usually a flattened canopy, which in windswept coastal areas of Australia can be stunted or angled. The number of branches may be influenced by the frequency of bushfires and by soil type.
- Widespread mallee species include *Eucalyptus dumosa* (white mallee), *E. socialis* (red mallee), *E. gracilis* (yorrell), *E. oleosa* (red mallee), *E. incrassata* (ridge-fruited mallee) and *E. diversifolia* (soap mallee).
- Most diverse range occurs across Western Australia and South Australia.
- In some wetter areas the eucalypts may exhibit mallee habits in response to regular fires. Typical examples include black gum (*E. aggregata*), mountain grey gum (*E. cypellocarpa*), narrow-leaved sallee (*E. moorei*), Kybean mallee (*E. kybeanensis*), narrow-leaved peppermint (*E. robertsonii*) and swamp gum (*E. ovata*) (Read 1994). In Tasmania, the snow gum (*E. pauciflora*) also forms a mallee on the exposed subalpine areas.
- Eucalypts are the most widespread tree component, rarely exceeding 6 m in height. Co-dominants can include species of *Melaleuca*, *Acacia* and *Hakea* in areas such as the Big Desert in Victoria, the Ninety Mile Desert, parts of Eyre Peninsula and in the wheatbelt and southern coastal areas of Western Australia.
- Support a diversity of understorey species. Understorey composition is strongly influenced by rainfall, soil types and fire regime. In subhumid areas mallee formations are dominated by grasses and shrubs and in the semi-arid areas the understorey below mallee species such as *E. oleosa*, *E. socialis* and *E. youngiana* is dominated by hummock grasses such as *Triodia* and *Plectrachne*.



Photo: M. Fagg

Eucalyptus gracilis (yorrell) with *Beyeria opaca* and *Triodia* sp. Calperum, near Renmark, SA

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Facts and figures

Major Vegetation Group	MVG 14—Mallee Woodlands and Shrublands
Major Vegetation Subgroups (number of NVIS descriptions)	Mallee with hummock grass (150) Mallee with a dense shrubby understorey (280) Mallee with an open shrubby understorey (111) Mallee with a tussock grass understorey (37)
Typical NVIS structural formations	Open mallee forest (tall, mid, low) Mallee woodland (tall, mid, low) Open mallee woodland (mid, low) Mid mallee shrubland (mid) Open mallee shrubland (mid, low)
Number of IBRA regions	40
Most extensive in IBRA region	Est. pre-1750: Murray Darling Depression (NSW, SA and Vic) Present: Great Victoria Desert (WA and SA)
Estimated pre-1750 extent (km²)	387 230
Present extent (km²)	271 529
Area protected (km²)	99 969



Mallee, near Lake Grace, WA

Photo: M. Fagg

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Species

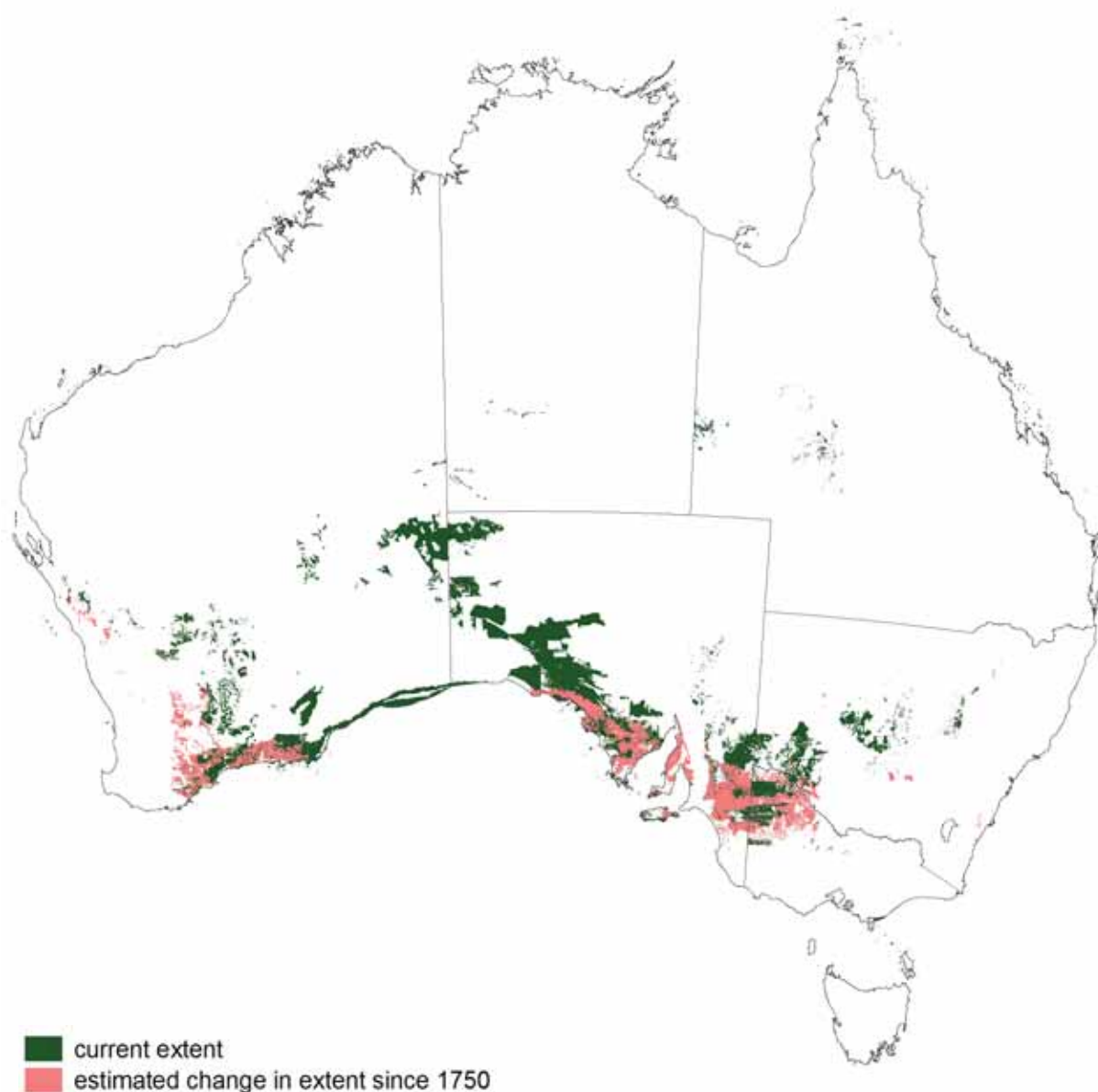
South Australia

Eucalyptus diversifolia ssp. *diversifolia*, *E. socialis*, *E. incrassata*, *E. brachycalyx* (gilja), *E. gracilis*, *E. cosmophylla* (cup gum), *E. oleosa* subsp. *ampliata*, *E. porosa* (mallee box) and *E. gongylocarpa* (marble gum).

Kangaroo Island has a suite of mallee species including *E. diversifolia*, *E. cneorifolia*, *E. remota*, *E. rugosa*.

Western Australia

Occurrences of *E. eremophila*, *E. redunca* (mallee wandoo), *E. nutans* (red-flowered moort), *E. transcontinentalis* (redwood), *E. decipiens* (limestone marlock), *E. tetragona* (tallerack), *E. dongarraensis*, *E. staeri*, *E. cornuta* (yate), *E. lehmannii*, *E. loxophleba* (York gum), *E. macrocarpa*, *E. cooperiana* and *E. gongylocarpa*.



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Victoria

E. dumosa, *E. oleosa* subsp. *oleosa*, *E. costata* subsp. *murrayana* (ridge-fruited mallee), *E. gracilis*, *E. areanacea*, *E. viridis* (green mallee) and *E. behriana* (bull mallee).

Northern Territory

E. gamophylla (blue mallee), *E. pachycarpa* and *Corymbia eremaea* subsp. *eremaea* (hills bloodwood).

New South Wales

E. dumosa, *E. socialis*, *E. dwyeri* (Dwyer's red gum), *E. stricta* (Blue Mountains mallee ash), *E. viridis*, *E. costata* subsp. *murrayana* and *E. gracilis*.

Queensland

E. normantonensis (Normanton mallee) and outliers of *E. pachyphylla* (red-bud mallee) and *E. socialis*.

Geography

- Mallee Woodlands and Shrublands are located in the semi-arid areas of southern Australia in New South Wales, north-western Victoria, southern South Australia and southern Western Australia.
- Outliers in the Northern Territory, Queensland and northern Western Australia refer mostly to the growth form of pockets of individual trees in places such as mountain tops, rather than the typical extensive mallee plains of southern Australia.
- Make up the most arid of the eucalypt-dominated communities of temperate Australia (Parsons 1994).
- Climatic conditions consist of cool winters and hot dry summers.
- Largest area occurs in South Australia (126 804 km²).

Tenure

Mallee Woodlands and Shrublands occur on a range of land tenures.

New South Wales:	leasehold land, freehold land, protected areas and little in state forests and reserved crown land
Northern Territory:	leasehold land, freehold land and little in protected areas
South Australia:	freehold land, protected areas, leasehold land, defence land
Victoria:	protected areas, state forests and freehold land
Western Australia:	protected areas, other and reserved crown land, leasehold land, small and isolated areas on freehold land

Change

- Approximately 30% of the estimated pre-1750 extent cleared accounting for 11.4% of total clearing in Australia including large areas of southern Western Australia and South Australia and northern Victoria.
- Approximately 116 000 km² cleared since European settlement.
- Removed from many cereal cropping and sheep grazing lands in the southern and eastern parts of Australia over the last fifty years.
- Clearing of the mallee in South Australia commenced in approximately 1900 following the widespread introduction of the stump-jump plough. Most of the South Australian Murraylands, Yorke and Eyre Peninsula areas were cleared before World War II. Tops of sandhills were cleared later in the 1960s as part of the rabbit control program. The Kangaroo Island mallee community was cleared following World War II with the soldier settlement scheme.
- Pastoral activities and altered fire regimes have modified mallee in the inland and more arid areas of Australia beyond the rainfall limits of cropping.
- Extensive areas of mallee occur in reserves on the border of South Australia and Victoria, south-western South Australia and in eastern Western Australia.
- Threats include fragmentation of remaining areas, inappropriate fire regimes (e.g. fires too regular and/or too intense and grazing impact on understorey). Associated issues in understanding and managing mallee areas for multiple values are yet to be fully explored.

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Key values

- Biodiversity since they include some of the most widespread communities in Australia.
- Remnant populations of a wide range of vertebrate and invertebrate species (e.g. rare and endangered species such as the Black-eared Miner and the vulnerable Mallee Fowl in south-west New South Wales and eastern South Australia).
- Recently the value of these communities for Indigenous communities, conservation and tourism has been more widely recognised by the governments and the community.

Management considerations

- Control of clearing and threats on the edges of remnants.
- Wildlife corridors between remnant patches of vegetation.
- Weed control (e.g. aggressive weeds such as South African love grass and other aggressive perennial grass species).
- Total grazing pressure (including domestic, native and feral animals).
- Rising water tables in cropping areas affected by dryland salinity.



Mallee, near Murray Bridge, SA

Photo: M. Fugg

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The majority of the mallee communities remain in private ownership or under leasehold and provide a particular public policy challenge for government as communities request increased stewardship and multi-value management in response to pastoralist access to these natural resources.

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Data sources

- Interim Biogeographic Regionalisation for Australia (IBRA), Version 6.1.
- Land Tenure in Australia's Rangelands (1955 to 2000), National Land and Water Resources Audit.
- National Vegetation Information System, Version 3.0.
- 1996/97 Land Use of Australia, Version 2.
- Collaborative Australian Protected Areas Database —CAPAD 2004—Terrestrial.

Notes

- Additional areas allocated to this MVG in South Australia, Western Australia and Victoria due to improved data. Some vegetation types in the Northern Territory have been re-interpreted to other MVGs.
- See the [Introduction to the MVG fact sheets](#) for further background on this series.