Australian Government
Department of the Environment and Energy

NVIS Fact sheet
MVG 4 – Eucalypt low open forest

Australia's native vegetation is a rich and fundamental element of our natural heritage. It binds and nourishes our ancient soils; shelters and sustains wildlife, protects streams, wetlands, estuaries, and coastlines; and absorbs carbon dioxide while emitting oxygen. The National Vegetation Information System (NVIS) has been developed and maintained by all Australian governments to provide a national picture that captures and explains the broad diversity of our native vegetation.

This is part of a series of fact sheets which the Australian Government developed based on NVIS Version 4.2 data to provide detailed descriptions of the major vegetation groups (MVGs) and other MVG types. The series is comprised of a fact sheet for each of the 25 MVGs to inform their use by planners and policy makers. An additional eight MVGs are available outlining other MVG types.

For more information on these fact sheets, including its limitations and caveats related to its use, please see: 'Introduction to the Major Vegetation Group (MVG) fact sheets'.

Overview

Typically, vegetation areas classified under MVG 4 – Eucalypt low open forest:

- occurs in high-rainfall areas of Cape York in Queensland, on Melville and Bathurst Islands, the top end in the Northern Territory and in Western Australia close to Kimberley coast and south around Denmark, and also in northern New South Wales and central Tasmania
- features typical tree heights from 5 to 10 m
- is dominated by eucalypts, primarily species of *Eucalyptus* and *Corymbia*
- is an open eucalyptus forest with a grass or shrub-dominated understorey. The tree layer has a crown cover of 50 – 80 per cent (projective foliage cover 30 – 70 per cent)
- can grow on less favourable sites (e.g. in extreme cold such as subalpine areas, dry areas, drainage impeded sites and steep rocky slopes) with understoreys ranging from low trees and shrubs to tussock grasses, or some cases, bare ground
- is regularly fire-prone in dry seasons.

(Banner Photo) Tropical eucalypt low open forest, Kakadu National Park, NT
(Photo: D. Keith)

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Facts and figures

Major Vegetation Group	MVG 4 – Eucalypt low open forest
Major Vegetation Subgroups (number of NVIS descriptions)	4. Eucalyptus open forests with a shrubby understorey 5. Eucalyptus open forests with a grassy understorey 60. Eucalyptus tall open forests and open forests with ferns, herbs, sedges, rushes or wet tussock grasses
Typical NVIS structural formations	Low open forest
Number of IBRA regions	43
Most extensive in IBRA region (Est. pre-1750 and present)	Arnhem Plateau (NT)
Estimated pre-1750 extent (km2)	12 424
Present extent (km2)	11 674
Area protected (km2)	6 233

Subalpine open forests (*Eucalyptus pauciflora*) Kosciusko National Park, NSW (Photo: D. Keith)

Structure and physiognomy

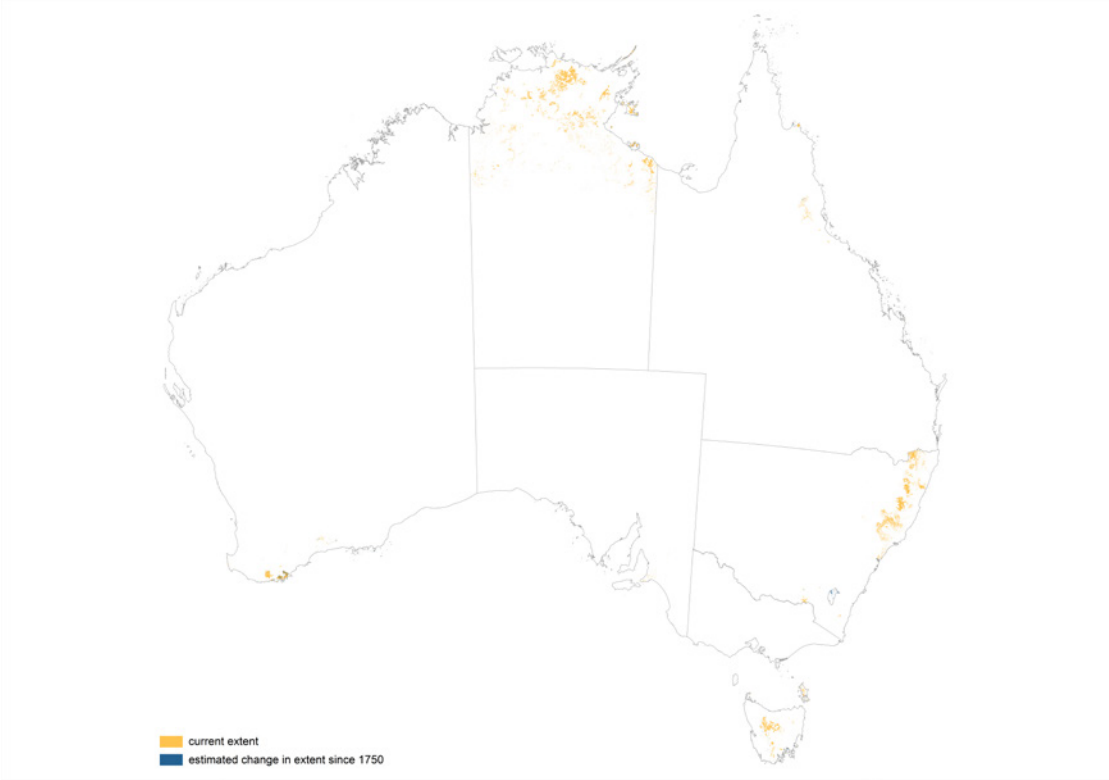
- Open forests dominated by eucalypts with understoreys ranging from low trees and shrubs, to grasses or, in some cases, bare ground.
- There are conspicuous variations in the features of the understorey and composition of the herb layer at different seasons, which may consist of a suite of evergreen and deciduous or semi-deciduous species.
- Ground layer may be dominated by annual and perennial grasses.
- Broad-leaved shrubs, palms and cycads may also occur in the understorey.
- In northern occurrences, trees are taller with straighter boles and the canopy cover is greater, than in the savanna woodlands (MVG 12).
- Leaves of the tree canopies are sclerophyllous and vary in size from notophyll (20 – 45 cm2) to mesophyll (45 – 150 cm2).

Indicative Species

- *Eucalyptus tetrodonta, E. miniata* and *Corymbia nesophila* are widespread across the tropics. *E. megasepala* and *E. crebra* occur on Cape York, *C. polysciada*, *C. bleeseri* and *E. ferruginea* are common in the Top End. *E. brevifolia* (snappy gum) occurs with *C. dichromophloia* (variable-barked bloodwood) in the Victoria River District. Non-eucalypt trees and tall shrubs include *Alphitonia excelsa, Callitris intratropica, Erythrophleum chlorostachys and Terminalia* species.
- In the north, grasses of the ground layer include *Heteropogon triticeus, Chrysopogon fallax, Sorghum plumosum, Sorghum intrans* and numerous other species. A range of forbs, including native legumes (family *Fabaceae*) occur amongst grass tussocks.
- New South Wales is dominated by *Eucalyptus largiflorens* (blackbox) communities that may occur with *E. microtheca* (coolabah) and *E. camaldulensis* (river red gum) in the more favourable riparian habitats of the inland.
- Further south, in Victoria, the community is mainly found in the riparian area with *E. camphora* and *Acacia melanoxylon* or in dry forest with a mix for eucalyptus species.
- In Tasmania, there are a small range of coastal and/or highland species dominated by *E. globules, E. nitida, E. coccifera, E. viminalis and E. ovata*.
- Species in southern Western Australia, around Denmark, include *E. marginata* (jarrah), *E. cornuta* (yate), *E. lehmannii* (bushy yate), *E. platypus* (moort), *Corymbia calophylla* (marri), *E. decipiens* (redheart) and *E. staeri* (Albany blackbutt) often associated with casuarinas and banksia species.

Environment

- Grow on less favourable sites (e.g. in extreme cold such as subalpine areas, dry areas, drainage impeded sites and steep rocky slopes).
- Eucalypt species may be the same as those occurring in the nearby more favourable sites, which support open forests. In other stands of low open forest the dominant species may include a change of species due to growth constraints (e.g. the snow gum, *Eucalyptus pauciflora*, in subalpine areas).
- The northern expanse is restricted to tropical monsoonal climates receiving approximately 1000 to 1400 mm mean annual rainfall in the summer months, with a dry season during the winter months.
- In New South Wales the ecosystem is distributed on rugged escarpment gorges, from the Macpherson Ranges south to the Hunter River.
- In Tasmania it occurs on undulating alpine plateaux and steep mountain sides up to 1200 m. Lower limits are generally 700 m where it occurs at the edges on plains or lakes. The substrate is usually dolerite.



Geography

- Has a presence in most states within a restricted range.
- The major distribution across monsoonal and tropical northern Australia (approximately 7 500 km^2) is on sandy and lateritic plains and rises from the northern Kimberley to Cape York Peninsula.
- Southern Western Australia, around Denmark; also a presence in New South Wales, Victoria and Tasmania.

The image above outlines the location of this MVG group in Australia.

Change

- Approximately six per cent of the estimated pre-1750 extent cleared accounting for 0.1 per cent of total vegetation clearing in Australia.
- Over half the present extent is in reserves.
- Contemporary land use changes associated with development of plantations, irrigated cropping and pastoral intensification involve clearing open forests and increased stocking rates.
- Changed fire regimes associated with pastoral intensification and unplanned ignitions are having significant regional impacts on biodiversity in the north.
- Introduction of large grazing animals has led to profound changes in vegetation structure, abundance and distribution with flow on effects to native fauna.
- Threats include weed invasion, inappropriate fire regimes (e.g. frequent high intensity fires) and overgrazing.

Key values

Biodiversity including a unique mixture of biota with arid and wet tropical origins.

Geodiversity, particularly some specific environments (e.g. alpine areas).

Critical habitat for populations of a wide range of vertebrate and invertebrate species.

Ecotourism and scenic landscapes, including bushwalking, skiing, walkways and wilderness experiences in isolated areas.

Globally significant, growing carbon pool.

Key values are primarily associated with the protection of restricted ecological communities and endangered species. These become more significant in forest areas which are either geographically restricted in area or which have become restricted through fragmentation.

List of key management issues

- Total grazing pressure management.
- Feral animal impacts e.g. cats, and cane toads, and associated decline in mammal populations.
- Fire management particularly mitigating fire regimes with a high frequency of severe fire brought about by the fuel loads of introduced grasses and ignitions associated with grazing land management practices.
- Weed control of invasive grasses and other weeds.
- Expansion and intensification of mining and agriculture.
- Long-term monitoring to inform future management strategies.

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Data sources

Interim Biogeographic Regionalisation for Australia (IBRA), Version 7.

National Vegetation Information System, Version 4.2.

Collaborative Australian Protected Areas Database – CAPAD 2014 – Terrestrial.

Notes

- This fact sheet should be read in conjunction with MVG 3: Eucalypt open forests.

Eucalypt low open forest with bare ground, Bungonia, NSW (Photo: M. Fagg)