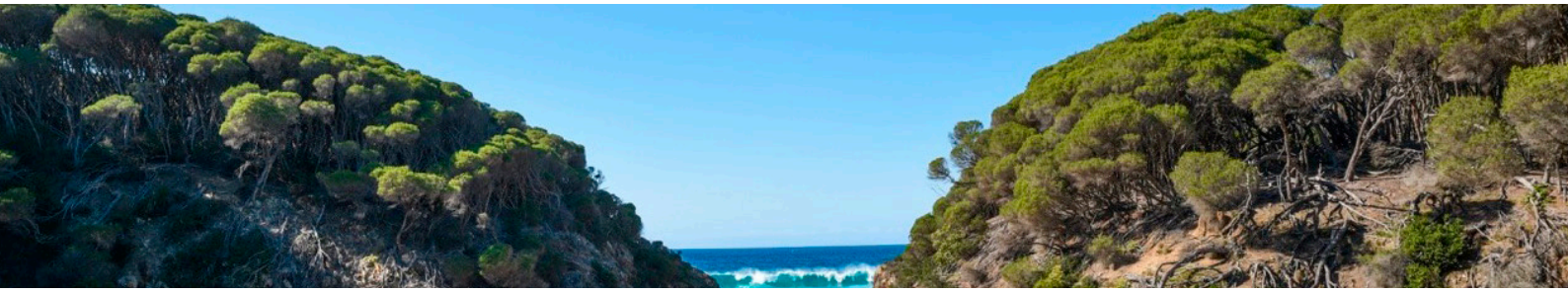
Australian Government
Department of the Environment and Energy



NVIS Fact sheet series
Introduction to MVG fact sheets

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 which have been classified into Major Vegetation Groups (MVGs).

Fact sheets for 25 MVGs have been developed from NVIS Version 4.2 data to provide detailed descriptions to inform their use by planners and policy makers.

Fact sheet 24 in the series, 'Other cover types', describes the nature of non-native, unknown or regrowth vegetation, and non-vegetated areas within the NVIS coverage (an additional eight MVGs).

The series includes the facts sheets listed below and can be downloaded here:

- MVG 1 - Rainforests and vine thickets
- MVG 2 - Eucalypt tall open forests
- MVG 3 - Eucalypt open forests
- MVG 4 - Eucalypt low open forests
- MVG 5 - Eucalypt woodlands
- MVG 6 - Acacia forests and woodlands
- MVG 7 - Callitris forests and woodlands
- MVG 8 - Casuarina forests and woodlands
- MVG 9 - Melaleuca forests and woodlands
- MVG 10 - Other forests and woodlands
- MVG 11 - Eucalypt open woodlands
- MVG 12 - Tropical eucalypt woodlands/grasslands
- MVG 13 - Acacia open woodlands
- MVG 14 - Mallee woodlands and shrublands
- MVG 15 - Low closed forests and tall closed shrublands
- MVG 16 - Acacia shrublands
- MVG 17 - Other shrublands
- MVG 18 - Heathlands
- MVG 19 - Tussock grasslands
- MVG 20 - Hummock grasslands
- MVG 21 - Other grasslands, herblands, sedgelands and rushlands
- MVG 22 - Chenopod shrublands, samphire shrublands and forblands
- MVG 23 - Mangroves
- MVG 24-30 & 99 - Other cover types
- MVG 31 – Other open woodlands
- MVG 32 – Mallee open woodlands and sparse mallee shrublands

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Data sources and methods used in the fact sheets

The information contained in the fact sheets is based on the NVIS Version 4.2 which includes:

- the latest vegetation descriptions and Geographic Information System (GIS) data gathered from hundreds of projects by multiple government agencies across all jurisdictions; and
- other (non-NVIS) vegetation mapping to fill gaps in coverage of the continent.

Information on the MVGs has been collated and mapped at the continental scale for two major themes to illustrate the changes in vegetation since European settlement:

- estimated pre–1750 vegetation; and
- present ("extant") native vegetation extent.

Copies of these datasets are provided on the NVIS website. Similarly, continental data of 85 MVGs, of which 73 are native vegetation, is also provided.

Open dry shrubby sclerophyll forests (*Eucalyptus marginata - jarrah*), south-west WA (Photo: M. Bolton)

Sources for facts and figures

Major Vegetation Group	The systematic name for the group.
Major Vegetation Subgroups	List of Major Vegetation Subgroups (MVS) occurring within the MVG (some may occur within multiple MVGs).
Typical NVIS structural formations	The main structural formations of the MVG, as defined in Level 2 of the NVIS information hierarchy.
Number of IBRA regions	The number of IBRA regions where the MVG occurs and the IBRA region with the largest extent of the MVG. These figures were derived from a GIS overlay of MVG (v4.2) and IBRA (v7) data (*Interim Biogeographic Regionalisation of Australia (IBRA) Version 7 - Regions*).
Most extensive in IBRA region	
Estimated pre-1750 extent (km²)	From the MVG 'Estimated pre-1750' vegetation dataset.
Present extent (km²)	From the MVG 'Extant' (present) vegetation dataset.
Area protected (km²)	This number was derived from a GIS overlay of MVG and CAPAD 2014 data (*Collaborative Australian Protected Areas Database - CAPAD 2014 - Terrestrial*).

Lignum (Duma florulenta) shrubland (centre and right), Coopers Creek, Nappa Merrie Station, Qld (Photo: M. Fagg)

Breakdown of sources

- Descriptions of the main characteristics, geography and environmental characteristics of each MVG were developed by the first National Land and Water Resources Audit (NLWRA) and updated by the Department from the re-supplied NVIS and additional references.
- National references were mostly selected to give an overview. Most of these contain useful references to state and regional sources, including the so-called "grey literature" of reports.
- Key species were listed by the first NLWRA and considerably updated from the re-supplied NVIS and through a major review of the fact sheets in 2015.
- Distribution maps were developed from the re-supplied NVIS (NVIS Version 4.2) and display:
  - in yellow: the present distribution of the MVG; and
  - in blue: the estimated area cleared or modified since European settlement of Australia.
- Information on change since settlement by Europeans, key values and management considerations were largely unchanged since the first NLWRA though climate change scenarios are becoming a key consideration.

Fact sheet caveats and limitations

The profile maps provided in the fact sheets are a guide to where particular vegetation groups occur but do not necessarily show entire distribution.

This is because the scale of vegetation mapping greatly affects the types of vegetation that are shown and many mapping programs concentrate on mapping the tree components (e.g. coarse scales of mapping cannot represent small fragments of vegetation in an agricultural area or strips of vegetation along river courses and many shrublands and grasslands remain unmapped where the dominant vegetation is woody).

Many of the source datasets used for this version of NVIS have primarily classified vegetation using floristic (species) composition, with structural attributes added later to describe the resultant vegetation types. Thus, areas of particular structural types, e.g. forest, may be overestimated.

NVIS (Version 4.2) updates previous versions with better data. It is generally not comparable with earlier versions and should not be used as quantitative evidence of vegetation change over the last decade. Further details are available in the metadata for the respective NVIS products.

Information provided under key values and management considerations is very general and should be used as a guide and starting point for further investigations at more detailed levels of management.

The information contained in the current set of MVG fact sheets represents a combination of existing knowledge on native vegetation from sources within the states and territories, research institutions and the Australian Government.

National Vegetation Information System (NVIS)

The NVIS is an ongoing, collaborative initiative of all Australian governments. It compiles vegetation data from state and territory governments and the Australian Government into a national database which is supported by a framework of standards for data collection and collation.

A range of government agencies, research organisations and non-government bodies have ongoing programs for assessing, classifying and mapping native vegetation. All use a combination of data collected at survey sites in the field and by remote sensing. The data collected at sites generally includes *floristic* (i.e. dominant species), *structural* (e.g. closed forest, open woodland) and *growth form* (e.g. mallee, grass, tall tree etc.) attributes. However, at a more detailed level there is considerable variation across Australia in methods used to classify and map native vegetation. This creates significant challenges in drawing together a reliable national view of native vegetation.

The NVIS collaboration has identified the common elements needed for a reliable national collation of native vegetation information. This collaboration continues to improve our capacity to report on Australia's native vegetation by drawing together data from a variety of sources, primarily maintained by the states and territories.

Overview of MVG classification

The NVIS database contains over 10 000 distinct vegetation types. Representing all of these on a map of the Australian continent would be confusing and uninformative of patterns at the continental scale. Consequently, a set of 32 MVGs and 85 MVSs were developed, derived from the NVIS database to enable a national view of native vegetation.

The MVGs summarise the type and distribution of Australia's native vegetation allowing broadscale analysis.

The MVG classification is conceptually based on aggregations of 'like' vegetation types, principally in terms of structure (mainly height and cover), growth form (tree, shrub, etc.) and floristic composition (vascular plant genera) in the dominant stratum for each vegetation-type description within the NVIS database.

There are three exceptions to this approach: Rainforests and vine thickets (MVG 1); Heathlands (MVG 18); and Tropical eucalypt woodlands/grasslands (MVG 12). In these cases, greater reliance was placed on detailed floristic (vascular plant species) information contained in the NVIS database.

Each MVG has different mixes of plant species within the canopy, shrub and ground layers, but vegetation within each MVG is structurally similar and often dominated by a single genus. From a mapping perspective, an MVG reflects the dominant vegetation occurring in a spatial unit and may embody a number of sub-dominant vegetation types which are not shown (mosaics).

For example, an area of vegetation mapped as Eucalypt open forest (MVG 3) may contain smaller pockets of rainforest, shrubland and grassland vegetation types. The adoption of this approach is one reason area estimates for particular MVGs may not be the same as those published for similar broad classificatory units by some states and/or territories.

The MVGs, and a more detailed set of MVSs were first developed after a series of technical workshops as part of the first *Australian Native Vegetation Assessment 2001* (NLWRA, 2001). More recently, changes have been made to the classifications reflecting the increased and updated information in recent versions of the NVIS.

A number of non-native vegetation and non-vegetation land cover types (other cover types) are represented in the MVG datasets. These are provided for contextual and cartographic purposes, but should not be used for quantitative analyses.

In summary, the MVGs:

- are aggregations of NVIS level five-six types (or the most detailed available). The aggregations were based on dominant genus-plus related NVIS structural categories for the dominant stratum, with some exceptions where floristics were emphasised
- sometimes combine types for which there are variations in nomenclature (e.g. *Corymbia* spp. (the bloodwoods) are included under *Eucalyptus*;
- sometimes combine like vegetation types which are described differently in different jurisdictions' classification approaches (e.g. "grassy woodlands" and "woody grasslands" are combined in MVG 12 - Tropical eucalypt woodlands/grasslands)
- help overcome skews in data from strictly defined structural categories so that they better reflect on ground conditions for certain ecosystems (e.g. not all rainforest communities have a "closed forest" structure)
- can contain vegetation communities with source descriptions that vary slightly from the MVG names (e.g. *Angophora, Syncarpia* and *Lophostemon* communities usually have *Eucalyptus* spp. present, or may occur in association or as part of a mosaic with eucalypt communities, so are included in eucalypt MVGs)
- provide a framework to develop summary statistics at a continental scale and help unravel the complexity of the more detailed underlying information, thus facilitating their use
- developed in consultation with NVIS technical collaborators in each jurisdiction.

References and further information

DoEE (2017) National Vegetation Information System home page. Australian Government, Department of the Environment and Energy, Canberra. URL: http://www.environment.gov.au/land/native-vegetation/national-vegetation-information-system.

DoEE (2017) *Australia's bioregions (IBRA)*. Australian Government, Department of the Environment and Energy, Canberra. URL: http://www.environment.gov.au/land/nrs/science/ibra.

DoEE (2017) The Collaborative Australian Protected Areas Database (CAPAD), Department of the Environment and Heritage, Canberra. URL: http://www.environment.gov.au/land/nrs/science/capad.

ESCAVI (2003) *Australian Vegetation Attribute Manual, Version 6.0*. Executive Steering Committee for Australian Vegetation Information/Department of Environment and Heritage, Canberra. URL: http://www.environment.gov.au/node/18927

National Land and Water Resources Audit (NLWRA) (2001). *Australian Native Vegetation Assessment 2001*. National Land and Water Resources Audit, Canberra.