

Large Native Trees of the Southwest Slopes & Upper Murray Region of NSW

About this Guide

The purpose of this guide is to provide a quick visual tool for inexperienced land managers and interested people to help identify some of the most common vegetation communities and the dominant trees in the Slopes to Summit landscape. It is not a scientific guide - to correctly identify a tree you need to look at other features. For eucalypts, the buds and nuts are an important diagnostic feature - see Costermans (2009) and South West Slopes Revegetation Guide (see references below).

Slopes to Summit

Slopes to Summit (S2S) is governed by a Working Group of organisations including Nature Conservation Trust of NSW, Charles Sturt University, Holbrook Landcare Network, Murray Local Land Services, CSIRO, Australian National University, Parklands Albury Wodonga, Albury Conservation Company, and NSW Office of Environment and Heritage. The group has a vested interest in the management and protection of biodiversity in the Eastern Murray region of NSW. The S2S region extends from the mountains of Kosciuszko National Park in the east to the fragmented agricultural landscapes of the South West Slopes including the Murray River and Billabong Creek catchments. The area includes box-gum woodlands, riparian forests and floodplains, and wet and dry sclerophyll forests.

S2S is one of the regional partnerships under the Great Eastern Ranges (GER) initiative that are working together to improve habitat and connectivity for our wildlife. Our local biodiversity is under enormous stress resulting from widespread clearance, fragmentation of habitat and climate change. Connectivity conservation is about ensuring we enable a range of a species to move between habitats and therefore maintain healthy and resilient populations.



Websites and Contacts of Interest

GER/S2S www.greasternranges.org.au
 Murray Local Land Services www.murray.lls.nsw.gov.au 1300 795 299
 Holbrook Landcare Network www.holbrooklandcare.org.au 02 60363181
 NSW Office of Environment & Heritage www.environment.nsw.gov.au

References for further information

Leon Costermans 'Native Trees and Shrubs of South-Eastern Australia' 2009, New Holland Publishers (Australia) Pty Ltd
 Centre for Plant Biodiversity Research - *Eucalypt Identification tool*: www.cpbr.gov.au/cpbr/cd-keys/euclid3/index.html
 Plantnet: *A Web Guide to the Eucalypts*: www.plantnet.rbg Syd.nsw.gov.au/PlantNet/Euc/
South West Slopes Revegetation Guide found online at www.holbrooklandcare.org.au

Acknowledgements

Compiled by Julia McCourt (MLLS) and Kylie Durant (HLN) on behalf of the S2S Partnership. Some text based on material in Damian Michael and David Lindenmayer 'Reptiles of the NSW Murray Catchment', 2010, CSIRO Publishing; the *South West Slopes Revegetation Guide*, 1998, and www.environment.nsw.gov.au for EEC determinations. This project is supported through funding from the Australian Government.

Photography

Cover photo Julia McCourt, River Red Gum (*Eucalyptus camaldulensis*)
 All other images: Scott Hartvigsen Photography www.scotthartvigsen.com with contributions from Julia McCourt, Natasha Lappin, Steve Thompson and Kylie Durant.

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A guide to assist in the identification of locally common native tree species



Typical Landscapes

One of the great aspects of living in the Slopes to Summit region is that there are a variety of landscapes, from fertile flats to gently undulating hills, to creek flats and cold wet depressions, to steep rocky ridges and moist shaded gullies. Residing within these landscapes are "communities" of vegetation, including the typical overstorey species described below.



Typical Dry Sclerophyll* Forest

Dry sclerophyll forest is a community of tall, closely growing trees that are mostly eucalypts and generally associated with low soil fertility. They occur mostly in the upper slopes of the Slopes to Summit region in areas such as Woomargama, Tabletop, Lankeys Creek and Jingellic. The most common overstorey species include; Red Stringybark, Red Box, Broad-leaved Peppermint, Long-leaved box, Brittle Gum, Apple Box, Blakelys Red Gum, Cypress Pines, Kurrajong and Wattles.



Typical Wet Sclerophyll* Forest

Wet sclerophyll forests are tall open forests dominated by eucalypts. They occur in areas of moderately fertile soils and rainfall in excess of 1000 mm per year such as Tumbarumba, Rosewood and Maragle. They are characterised by a tall open tree canopy and a lush understorey of shrubs, ferns and herbs with overstorey species such as Narrow-leaved Peppermint, Eurabbie, Candlebark, Apple Box and Blackwood. (Note: Red Stringybark can also occur in Wet Sclerophyll landscapes, generally associated with Narrow-leaved peppermint).

* Sclerophyll refers to a type of vegetation characterised by hard, leathery foliage, usually with waxy coatings and oil glands, adapted to prevent moisture loss.

Typical Landscapes



Wet Sclerophyll - Upper Murray Riparian Woodland

Throughout the Upper Murray you will find cold, wet gullies, drainage lines, springs, wet depressions and riparian vegetation communities between approximately 600 and 1400 m in altitude featuring Swamp Gums, Black Sallee, White Sallee (or Snow Gums), Ribbon Gum and Wattles. Typical areas include Mannus Creek and upper reaches of Tumbarumba Creek. This vegetation type is listed as an endangered ecological community (EEC) under the *NSW Threatened Species Conservation Act 1995*, with an estimated 72% decline in area since European settlement.



Box Gum Woodland

This vegetation type occurs on the fertile soils in the more central parts of the Slopes to Summit region typically below 700m elevation, such as Mullengandra, Holbrook, Albury and Culcairn. Typical overstorey species include Yellow Box, White Box, Red Box, Blakelys Red Gum, Apple Box, Cypress Pine and Wattles, with Grey Box becoming more common as you go further west.

This vegetation type is listed as an EEC under the *NSW Threatened Species Conservation Act 1995*. Less than 10% of this EEC is estimated to remain in the South West Slopes due to disturbances such as cropping, pasture improvement, heavy grazing by domestic stock, urban development and transport infrastructure leaving them severely depleted and fragmented. Overstorey is often seen remaining as paddock trees.

Montane and Subalpine Woodlands

The higher altitude vegetation communities feature overstorey trees such as Manna Gums, Alpine Ash, Mountain Gums, Snow Gums, and Black Sallee in the drainage lines. Alpine Ash and Mountain Gums are not covered in this guide.

Dry Sclerophyll Forest



Red Stringybark
Eucalyptus macrorhyncha



Red Box
Eucalyptus polyanthemus



Long-leaved Box
Eucalyptus goniocalyx

Silver Bundy (E. nortonii) is a very similar species characterised by glaucous (white waxy) buds that is also common in dry sclerophyll forest.



Broad-leaved Peppermint
Eucalyptus dives

Dry Sclerophyll Forest



Brittle Gum
Eucalyptus mannifera

Note: in the northern edge of the Murray region this species is often replaced by Scribbly Gum (*E. rossii*)



Kurrajong
Brachychiton populenus



Hickory wattle/Lightwood
Acacia implexa



Cherry Ballart/Native Cherry
Exocarpos cupressiformis

Wet Sclerophyll



Narrow-leaved Peppermint
Eucalyptus robertsonii



Eurabbie
Eucalyptus bicostata



Candlebark
Eucalyptus rubida



Blackwood
Acacia melanoxylon

Wet Sclerophyll

Upper Murray Riparian Woodland



Swamp Gum
Eucalyptus ovata
Also present is Mountain Swamp Gum E. camphora



Black Sallee
Eucalyptus stellulata



White Sallee/Snow Gum
Eucalyptus pauciflora



Ribbon Gum/Manna Gum
Eucalyptus viminalis

Grassy Box Woodland



Yellow Box
Eucalyptus melliodora



White Box
Eucalyptus albens



Grey Box
Eucalyptus macrocarpa



Cypress Pine
Callitris species; in the east generally *Callitris Endlicheri*, central is *Callitris Glaucophylla*
Stand of Black Cypress Pine, Black Cypress Pine leaves, White Cypress Pine bark and nuts

Common

Throughout the Slopes to Summit region
Some overstorey species can be seen right across the region.
Their form can vary dependant on the position in the landscape, rainfall and soil fertility.



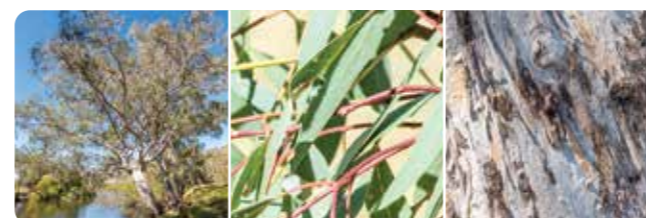
Silver Wattle
Acacia dealbata



Apple Box
Eucalyptus bridgesiana



Blakely's Red Gum
Eucalyptus blakelyi
Note: there are at least two other forms of Red Gum present in our catchment – E. dwyerii and E. dealbata. These both occur on steep, rocky hills and are smaller, often multi stemmed and can be identified by the arrangement and shape of the buds.



River Red Gum
Eucalyptus camaldulensis
River Red Gum Communities are common throughout the region. They can be found along the Murray River from South Australia all the way to Khancoban, and along major systems like the Billabong Creek.

Identifying Large Native Trees

This guide is only intended to give you an idea of the types of trees you will find in our region. Identification of individual trees can be tricky – they can take different forms depending on the landscape features such as rainfall and soil type, or have sub species which can have slightly different leaf shapes, or number of buds! Eucalypts can also “cross breed” and produce individuals that are hard to define. Similarly, flowers are not a good indicator as the majority of eucalypts in our region have white or creamy coloured flowers.

To at least narrow the field, the best indicators are the buds/fruit (number, form and shape), leaves (their shape, colour, how they are arranged), if they have significant differences in juvenile vs adult leaves, bark type and the other vegetation that is associated with the tree in question.

Some trees, such as Apple Box and Long-leaved Box, look similar in their adult form. The juvenile leaves help to narrow down the species as juvenile Apple Box leaves are crenulated and alternate, whilst Long leaved Box are opposite and smooth. Other examples that have markedly different juvenile leaves are Kurrajongs and Eurabbies and some Wattles. Peppermints can also be separated by their juvenile leaves.



Apple Box juvenile leaves



Long-leaved Box juvenile leaves



Blackwood juvenile leaves



Eurabbie juvenile leaves



Narrow-leaved Peppermint juvenile leaves



Broad-leaved Peppermint juvenile leaves

Buds and Bark are useful identification markers. Brittle Gum is often identified by its smooth, white powdery bark which comes off on your hands when rubbed.



Yellow Box buds



Eurabbie buds



Powdery residue from Brittle Gum bark

Connectivity and Habitat

A healthy 10 hectare remnant woodland in the Slopes to Summit region would typically contain:

- Eucalypts and other large native trees of various ages, including hollow bearing trees;
- Shrubs and/or a grassy understorey, including fungi species;
- Abundant fallen timber and leaf litter;
- Birds, mammals (including bats), reptiles; and
- A diverse range of insects.

Remnants are subject to varying degrees of threat that jeopardise their viability. These threats include: further **clearing** (for cropping, pasture improvement or urban development); **deterioration** of remnant condition (causes include firewood cutting, increased livestock grazing, weed invasion, inappropriate fire regimes, soil disturbance, infections and increased nutrient loads); **degradation** of the landscape in which remnants occur (including soil acidification, salinity, and loss of connectivity between remnants).

There are significant vegetation corridors in our upper slopes, but in lowland areas the native vegetation is often degraded and isolated from other patches with many understorey and mid storey species missing. This impacts on the presence and diversity of birds, mammals, reptiles and insects. The ongoing management of remnants on private land is critical for biodiversity conservation. Remnant vegetation also has qualities that are particularly relevant to the sustainability of agriculture, including:

- The prevention and amelioration of dryland salinity;
- Minimisation of soil loss;
- Improved water retention and quality;
- Pollination of crops;
- Habitat for native wildlife (important in natural pest control);
- The provision of shade and shelter for crops, pasture and stock;
- Aesthetic values; and
- The opportunity to maintain genetic diversity via self-regeneration.

Fortunately, there has been significant investment by both public and private land managers in our region to conserve, enhance and establish vegetation. Farmers in our region care about their stewardship of the land and want to leave their farms in better condition than they found it. We are lucky to have active Landcare, community and producer groups that collaborate to support healthy, diverse and functioning landscapes.

What can you do?

- Find out what vegetation communities are around you – discuss with your local Landcare group, LLS or environmental organisations.
- Join in local field days, activities or identification workshops.
- Manage stock grazing pressure – consider a fence!
- Make patches bigger with planted vegetation or fenced buffers for regeneration.
- Replace missing vegetation layers – plant understorey shrubs, grasses and forbs.
- Leave dead, standing and fallen timber and leaf litter where possible.
- Link existing vegetation sites, especially if the patches are less than 1 km apart. Aim for stepping stones across the property that are more than 100 m apart. The stepping stones may be existing tree patches, paddock trees or rocky outcrops etc.
- Work with neighbours to connect patches of vegetation in the landscape, find out about local incentive programs.
- When planning to revegetate an area, it is worth visiting any high quality remnants in your area to develop a picture of what a healthy remnant looks like.
- Enjoy our beautiful local native trees!