

Lowland Grassy Woodland in the South East Corner Bioregion

Introduction

These guidelines provide background information to assist landholders to identify remnants of Lowland Grassy Woodland in the South East Corner Bioregion (known here as Lowland Grassy Woodland). For more detailed information refer to the NSW Scientific Committee's Final Determination at

www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=20070

What is an endangered ecological community?

An ecological community is a unique and naturally occurring assemblage of plants and animals. The presence of an ecological community can be determined by factors such as soil type, position in the landscape, climate and water availability, all of which influence species composition. An endangered ecological community (EEC) is an ecological community listed under the *Threatened Species Conservation Act 1995* as being at risk of extinction unless threats affecting these areas are managed and reduced.

What is Lowland Grassy Woodland?

Lowland Grassy Woodland is an open forest or woodland often with a layer of scattered small trees, an open shrub layer and a mostly continuous grassy ground layer. Some examples may reach a height of 40 m, but many regrowth stands may only be 10 m tall. It is associated with rainshadow areas of the south coast and hinterland of New South Wales which receive less rainfall than the more elevated surrounding areas. It typically occurs in undulating terrain up to 500 m elevation on granitic substrates (e.g. adamellites, granites, granodiorites, gabbros, etc.) but may also occur on locally steep sites and on acid volcanic, alluvial and fine-grained sedimentary substrates. Lowland Grassy Woodland may usually be distinguished by the current or former dominance of forest red gum (*Eucalyptus tereticornis*). Other canopy trees include white stringybark (*E. globoidea*), rough-barked apple (*Angophora floribunda*), yellow box (*E. melliodora*) and snow gum (*E. pauciflora*). Coast grey box (*E. bosistoana*), blue box (*E. baueriana*) and maiden's blue gum (*E. maidenii*) occur more rarely, as does ribbon or manna gum



Lowland grassy woodland—Forest Red Gum
Photograph: P Richards



Lowland grassy woodland EEC

(*E. viminalis*). There is often a sparse small tree layer and an open shrub layer. The dense grassy ground cover is usually dominated by kangaroo grass (*Themeda australis*) and weeping grass (*Microlaena stipoides*), and also supports a suite of other grasses, herbs and forbs. In some locations trees and shrubs may be absent due to past clearing, but the resultant derived native grassland may still represent Lowland Grassy Woodland if characteristic non-woody species listed below are still present.

Where is Lowland Grassy Woodland found?

Lowland Grassy Woodland occurs within the South East Corner Bioregion of NSW. Major occurrences are found to the west of Batemans Bay, around Moruya, in the Araluen valley, in the Cobargo–Bega–Candelo area, the Towamba Valley and near Tanja. It is currently known to occur within the Bega Valley, Eurobodalla and Palerang local government areas, but may occur elsewhere in the bioregion.

Why is it important?

It is estimated that about 80% of the estimated original area of Lowland Grassy Woodland has been cleared for agriculture with more than 95% of the remaining mapped extent occurring as highly fragmented patches less than 10 hectares in size. Almost all of the remaining area of the community occurs on private land or on public easements where it is threatened by timber harvesting, clearing, grazing, weed invasion and inappropriate fire regimes.

Description of the community

The tree layer

The most common trees occurring in the canopy are forest red gum (*Eucalyptus tereticornis*) often with white stringybark (*E. globoidea*) and/or rough-barked apple (*Angophora floribunda*). At some sites yellow box (*Eucalyptus melliodora*) and snow gum (*E. pauciflora*) may be locally common. Coast grey box (*E. bosistoana*), blue box (*E. baueriana*) and maiden's blue gum (*E. maidenii*) may also occur less frequently and ribbon or manna gum (*E. viminalis*) may occur on lower slopes adjacent to major streamlines. Other eucalypt species may occasionally occur, and in some areas a tree layer is absent.

The shrub layer

An open, small tree layer is sometimes present, often containing black wattle (*Acacia mearnsii*), hickory wattle (*A. implexa*) or native cherry (*Exocarpos cupressiformis*). Other small trees or shrubs may occur including dogwood (*Jacksonia scoparia*), blackthorn (*Bursaria spinosa*), *Cassinia aculeata*, *C. longifolia*, *C. trinerva* and riceflower (*Ozothamnus diosmifolius*).

The ground layer

The grassy ground layer is diverse and dominated by several species of native grasses such as kangaroo grass (*Themeda australis*), weeping grass (*Microlaena stipoides*), forest hedgehog grass (*Echinopogon ovatus*) and paddock lovegrass (*Eragrostis leptostachya*). Common herb species include kidney weed (*Dichondra repens*), stinking pennywort (*Hydrocotyle laxiflora*), slender tick trefoil (*Desmodium varians*), small St John's Wort (*Hypericum gramineum*), the twiner *Glycine clandestina* and the fern poison rock fern (*Cheilanthes sieberi*).



Black wattle foliage Photograph: P Richards



Forest red gum buds Photograph: P Richards

Characteristic species list

A list of canopy trees and understorey plants that characterise a patch of Lowland Grassy Woodland is provided in the table at right. Not all the species listed need to occur at any one site for it to be considered Lowland Grassy Woodland, and there may also be additional species that are not included in the table. The species present at any site will be influenced by the size of the site, recent rainfall or drought conditions and by its disturbance (including fire and logging) history.



Native cherry Photograph: P Richards



Kidney-weed Photograph: P Richards



Forest red gum fruit Photograph: P Richards

Scientific Name	Common name
Trees	
<i>Angophora floribunda</i>	Rough-barked apple
<i>Eucalyptus baueriana</i>	Blue box
<i>Eucalyptus bosistoana</i>	Coast grey box
<i>Eucalyptus globoidea</i>	White stringybark
<i>Eucalyptus maidenii</i>	Maiden's gum
<i>Eucalyptus melliodora</i>	Yellow box
<i>Eucalyptus pauciflora</i>	Snow gum
<i>Eucalyptus tereticornis</i>	Forest red gum
<i>Eucalyptus viminalis</i>	Ribbon gum
Shrubs/small trees	
<i>Allocasuarina littoralis</i>	Black she-oak
<i>Acacia mearnsii</i>	Black wattle
<i>Acacia implexa</i>	Hickory wattle
<i>Bursaria spinosa</i>	Blackthorn
<i>Cassinia spp.</i>	Cassinia; dogwood
<i>Exocarpos cupressiformis</i>	Native cherry
<i>Jacksonia scoparia</i>	Dogwood
<i>Ozothamnus diosmifolius</i>	Riceflower
Grasses	
<i>Austrodanthonia racemosa</i>	Wallaby grass
<i>Chloris ventricosa</i>	Tall chloris
<i>Dichelachne micrantha</i>	Shorthair plumegrass
<i>Echinopogon ovatus</i>	Forest hedgehog grass
<i>Eragrostis leptostachya</i>	Paddock lovegrass
<i>Microlaena stipoides</i>	Weeping grass
<i>Poa labillardierei</i> var. <i>labillardierei</i>	Tussock
<i>Poa meionectes</i>	–
<i>Themeda australis</i>	Kangaroo grass
Herbs/ferns	
<i>Euchiton gymnocephalus</i>	Creeping cudweed
<i>Cheilanthes sieberi</i>	Poison rock fern
<i>Dichondra repens</i>	Kidney weed
<i>Geranium solanderi</i>	Native geranium
<i>Hydrocotyle laxiflora</i>	Stinking pennywort
<i>Hypericum gramineum</i>	Small St John's wort
<i>Lomandra longifolia</i>	Spiny-headed mat-rush
<i>Zornia dyctiocarpa</i>	Zornia
Vines	
<i>Desmodium varians</i>	Slender tick-trefoil
<i>Glycine clandestina</i>	–
<i>Glycine tabacina</i>	–

Variation in the community

Remaining remnants can vary in structure and species composition as a result of past and current management practices. Some remnants may consist of only the grassy ground cover with limited scattered trees or shrubs, for example in areas with very little grazing history where trees have been mostly removed such as cemeteries and some roadsides. At heavily disturbed sites only some of the species which characterise the community may be present. In addition, above ground individuals of some species may not be present, but the species may be represented below ground in the soil seed banks or as bulbs, corms, rhizomes or rootstocks. Small trees or saplings may dominate the community in relatively high densities after partial or total clearing.

How can I identify areas of Lowland Grassy Woodland?

The following are key characteristics to help identify an area of Lowland Grassy Woodland.

- Is the site in the South East Corner Bioregion of NSW (see map)?
- Is the vegetation open forest or woodland with a grassy ground layer, or derived native grassland?
- Is the site on low, rolling hills in an area less than 500 m in elevation?
- Is the site in a rainshadow area which receives about 700–1100 mm rain per annum?
- Does the tree layer, if present, contain forest red gum, rough-barked apple and/or white stringybark?

If you answer yes to the above questions, your site is likely to consist of Lowland Grassy Woodland. Where difficulties arise with decisions on whether particular sites are Lowland Grassy Woodland, expert advice may be needed.

What does this mean for my property?

As a listed endangered ecological community under the *Threatened Species Conservation Act 1995*, Lowland Grassy Woodland has significant conservation value and some activities may require consent or approval. Please contact the Department of Environment, Climate Change and Water for further information.

Determining the conservation value of remnants

The degree of disturbance (i.e. condition) of many remnants can vary, from almost pristine to highly modified. It is important to note that even small patches or areas that have had past disturbance such as selective logging, fire or grazing are still considered to be important remnants of Lowland Grassy Woodland and meet the criteria to be an EEC. Where difficulties arise with decisions on whether particular sites are Lowland Grassy Woodland, expert advice may be needed.

Retaining mature native vegetation or EECs for conservation purposes may attract incentive funding.



Rough-barked apple – juvenile and adult leaves
Photograph: P Richards



Tussock grass
Photograph: P Richards



Kangaroo grass
Photograph: P Richards

Funding is allocated to landholders by the local Catchment Management Authority (CMA) according to the priorities set out in their Catchment Action Plan and strategies. For more information contact your local CMA or email: info@nativevegetation.nsw.gov.au

For further assistance

This and other EEC guidelines are available on the DECCW website at threatenedspecies.environment.nsw.gov.au/tsprofile/home_tec.aspx or www.environment.nsw.gov.au/pnf/eecfieldidguidelines.htm

The resources listed below also provide information on NSW plants, native vegetation and EECs.

- Botanic Gardens Trust plant identification assistance: www.rbgsyd.nsw.gov.au/plant_info/identifying_plants/
- Department of Environment, Climate Change and Water threatened species profiles: www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_species.aspx
- Information on bioregions of New South Wales: www.environment.nsw.gov.au/bioregions/Bioregions.htm
- NSW Scientific Committee Determinations: www.environment.nsw.gov.au/committee/ListofScientificCommitteeDeterminations.htm
- Eurobodalla Shire Council, *Threatened species and EECs of the Eurobodalla*, including fact sheets: www.esc.nsw.gov.au/site/Environment/ThreatenedSpecies/index.html
- Brooker, M and Kleinig, D (1990) *Field guide to eucalypts of south-eastern Australia, volume 2*. Inkata, Melbourne VIC.
- Harden, G (ed.) (1990–2002) *Flora of NSW, volumes 1–4*. University of NSW Press, Kensington NSW.
- Keith, D and Bedward, M (1999) 'Native vegetation of the South East Forests Region, Eden, NSW'. *Cunninghamia* 6(1): 1–218.
- Thackway, R and Creswell, I (eds) (1995) *An interim biogeographic regionalisation for Australia: a framework for setting priorities in the National Reserves System Cooperative Program*. Australian Nature Conservation Agency, Canberra.



Narrow-leaved sticky hop-bush Photograph: P Richards



Forest red gum bark Photograph: P Richards



Published by:

Department of Environment, Climate Change and Water NSW

59–61 Goulburn Street; PO Box A290 Sydney South 1232

Phone: (02) 9995 5000 (switchboard)

Phone: 131 555 (environment information and publications requests)

Fax: (02) 9995 5999

TTY: (02) 9211 4723

Email: info@environment.nsw.gov.au

Web: www.environment.nsw.gov.au

© Copyright State of NSW and Department of Environment, Climate Change and Water NSW.

DECCW is pleased to allow this material to be reproduced for educational or non-commercial uses, provided the meaning is unchanged and its source, publisher and authorship are acknowledged.

Disclaimer: The Department of Environment, Climate Change and Water has prepared this document as a guide only. The information provided is not intended to be exhaustive. It does not constitute legal advice. Users of this guide should do so at their own risk and should seek their own legal and other expert advice in identifying endangered ecological communities. The Department of Environment, Climate Change and Water accepts no responsibility for errors or omissions in this guide or for any loss or damage arising from its use.

ISBN 978 1 74232 821 8

DECCW 2010/523

July 2010

Printed on 80% recycled paper



Lowland grassy woodland–Forest Red Gum Photograph: P Richards