



Lowland Grassy Woodland on the NSW south coast

Managing productivity
and biodiversity

Saving our Species

In partnership with:

South East Local Land Services

and Far South Coast Landcare Association.



Lowland Grassy Woodland on your property

Lowland Grassy Woodland is valuable for native pasture grazing and the conservation of a wide range of native flora and fauna.

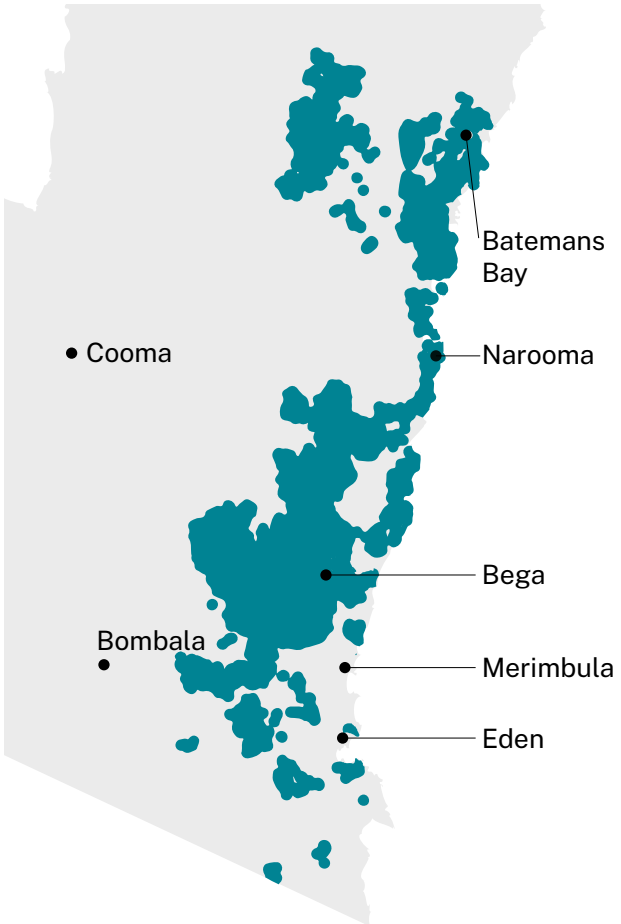
As is typical of grassy ecosystems, it is a highly dynamic community. Seasonal and climate-driven changes can be large and need to be considered as part of management decisions.



Where does it occur?

Lowland Grassy Woodland occurs mainly in the Bega Valley and surrounds, around Moruya and in the lower areas of the Araluen Valley.

It typically occurs in undulating terrain up to 500 m elevation on granitic substrates. It may also occur on locally steep sites and on acid volcanic, alluvial and fine-grained sedimentary substrates.



Lowland Grassy Woodland may occur

What is it?

Lowland Grassy Woodland is a threatened ecological community that occurs as an open forest or woodland with a mostly continuous grassy ground layer. There can also be a layer of scattered small trees or a sparse shrub layer. Lowland Grassy Woodland can usually be recognised by the current or former dominance of forest red gum (*Eucalyptus tereticornis*). Other canopy trees include white stringybark (*E. globoidea*), yellow stringybark (*E. muelleriana*), rough-barked apple (*Angophora floribunda*), coast grey box (*E. bosistoana*) and yellow box (*E. melliodora*). Blue box (*E. baueriana*) and Maiden's blue gum (*E. maidenii*) occur more rarely, as does ribbon or manna gum (*E. viminalis*).

The grassy ground cover supports a wide diversity of grasses, herbs and forbs. Trees may be absent due to past clearing, but the resulting derived native grassland may still represent the woodland community.

Why is it threatened?

Due to the soil types and landscape typical of the community, much of the original distribution of Lowland Grassy Woodland has been cleared for agriculture.

A lack of biomass control, traditionally occurring through fire, results in a woodier community. Species composition has also changed with increases in shrub species and a reduction in herbaceous forbs. Pasture weeds, such as African lovegrass (*Eragrostis curvula*) and St John's wort (*Hypericum perforatum*), have also become widespread in the community.

Key management concepts

Biomass management is very important. Persistent grassy biomass lowers ground cover plant species diversity. High shrub and tree biomass also changes the community structure. Conversely, a lack of biomass and exposed bare ground can encourage weeds.

It's vital to manage remnants for the native plant biodiversity you have. The dispersal of grassland flora is typically poor and recovery is slow. Trees will disperse from nearby remnants and regenerate over time.

It's important to retain woody debris on the ground to provide complexity and small niches for native plant establishment and fauna habitat.

Historically unfertilised areas are highly important for ongoing native ground cover plant species diversity.

Paddock trees are highly valuable for fauna and shaded areas can provide hotspots for native ground cover diversity (www2.environment.nsw.gov.au/scattered-trees-and-biodiversity).

Weeds and exotic plant species are now an inherent component of this community.



Is there support?

Lowland Grassy Woodland-friendly land management is an opportunity to improve native biodiversity, even alongside agricultural production. On your agricultural holdings, caring for biodiversity can create opportunities in emerging biodiversity and sustainability markets.

There are a range of support options for landholders interested in conserving and managing biodiversity on private land, including:

- private land conservation agreements with the NSW Biodiversity Conservation Trust www.bct.nsw.gov.au
- funding opportunities and advice for protecting and managing grassy woodlands and threatened species available through Saving our Species savingourspecies@environment.nsw.gov.au
- South East Local Land Services www.lls.nsw.gov.au/regions/south-east
- Far South Coast Landcare Association www.fscl.org.au
- Far South Coast Conservation Management Network www.fscmn.com.

Photos

Cover: Lowland Grassy Woodland, Jackie Miles/DCCEEW

Page 3: Lowland Grassy Woodland, David Bain/DCCEEW;

Page 5: High grassy biomass, David Bain/DCCEEW.

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Lowland Grassy Woodland management guidelines

States and transition: Lowland Grassy Woodland typically responds to land management by transitioning through tipping points into new condition states, rather than a continual change along a gradient of condition. Long-term livestock grazing, fertiliser use and cultivation all represent drivers of declining diversity and ecological function that can result in ecological tipping points that are difficult to reverse.

Management techniques	Goal	Method	Limitations
Biomass control: Livestock  <p>Photo: David Bain/DCCEEW</p>	Strategic use to reduce high grass and shrub biomass.	Crash grazing with increased stock density well above set stocking rates for short periods (several days to 1 month/year). *For seasonal timing related to biomass control in native grass dominated or exotic grass dominated areas, see below.	Livestock can increase soil nutrients which can limit native plant regeneration. Keep duration as short as possible to achieve goal. Increase stock density rather than increase duration.
Biomass control: Fire  <p>Photo: Jackie Miles/DCCEEW</p>	Strategic use to reduce high grass and shrub biomass. Stimulate germination of native ground cover.	Always burn small patches in a mosaic. Native seeds can be sown immediately after fire (e.g., <i>Themeda</i> , <i>Bothriochloa</i> , <i>Cymbopogon</i> , native forbs and herbs). *For seasonal timing related to biomass control in native grass dominated or exotic grass dominated areas, see below.	Permission and approval under legislation is important to understand.
Biomass control: Thinning  <p>Photo: David Bain/DCCEEW</p>	Reduce density of trees and shrubs to reinstate woodland structure in line with grassy woodland benchmarks.	Retain the largest habitat trees and remove smallest diameter stems. Aim for 30% foliage cover for trees across a remnant or an average of 230 stems per hectare (approximately 6.6 m between stems). Woody debris should be left in situ on site to improve habitat complexity. Do not 'tidy up' or burn fallen timber.	Permission and approval under legislation is important to understand.
Weed control  <p>Photo: David Bain/DCCEEW</p>	Eradicate or reduce weed cover in and around Lowland Grassy Woodland remnants.	Iterative and ongoing work is important. Consider what can be realistically achieved each year. Maintain at least 90% ground cover to discourage establishment. Shade can also be important in reducing establishment. Early control of new infestations is critical. Biomass control and herbicides can be used in combination to improve control success, particularly for African lovegrass (<i>Eragrostis curvula</i>). For more information, see weeds.dpi.nsw.gov.au	Control requires consistency and a long-term commitment.
Cultivation  <p>Photo: David Bain/DCCEEW</p>	Not appropriate for Lowland Grassy Woodland.	Not applicable.	Cultivation disturbs topsoil and introduces exotic species which will outcompete native forbs and grasses.
Fertiliser use  <p>Photo: David Bain/DCCEEW</p>	Not appropriate for Lowland Grassy Woodland. Goal should be to reduce soil nutrients.	Cease use of fertilisers.	Increases in soil nitrogen and phosphorus favours exotic species and will reduce native plant diversity.

*Seasonal timing for biomass control:

- *Native grass dominated areas*: summer and autumn are best times to reduce summer grass sward and promote gaps for native germination. Start after natives have seeded.
- *Exotic grass dominated areas*: late winter and early spring are best times to control exotic grass biomass and seeding. Stop when natives are flowering. Targeted herbicide use can be used on regenerating exotics.