

NSW Threatened Species Scientific Committee

Notice of Preliminary Determination

The NSW Threatened Species Scientific Committee, established under the *Biodiversity Conservation Act 2016* (the Act), has made a Preliminary Determination to support a proposal to list Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion as an ENDANGERED ECOLOGICAL COMMUNITY in Part 2 of Schedule 2 of the Act and to remove the Lowland Grassy Woodland in the South East Corner Bioregion from Part 2 of Schedule 2. Listing of Endangered Ecological communities is provided for by Part 4 of the Act.

How to make a submission

The NSW TSSC welcomes public involvement in the assessment process and places preliminary determinations on public exhibition on the NSW TSSC pages on the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) website. This public exhibition provides an opportunity for the public to comment on this preliminary determination as well as provide any additional information that is relevant to the assessment.

Postal submissions regarding this Preliminary Determination may be sent to:

Secretariat
NSW Threatened Species Scientific Committee
Locked Bag 5022
Parramatta NSW 2124.

Email submissions in Microsoft Word or PDF formats to:

scientific.committee@environment.nsw.gov.au

Submissions close 3 July 2026

What happens next?

After considering any submissions received during the public exhibition period the NSW TSSC will make a Final Determination and a notice will be placed on the NSW DCCEEW website to announce the outcome of the assessment. If the Final Determination is to support a listing, then it will be added to the Schedules of the Act when the Final Determination is published on the legislation website. www.legislation.nsw.gov.au.

Privacy information

The information you provide in your submission may be used by the NSW TSSC in the assessment to determine the conservation status and listing or delisting of threatened or extinct species, threatened populations and threatened or collapsed ecological communities or to assess key threatening processes.

The NSW TSSC may be asked to share information on assessments with NSW Government agencies, the Commonwealth Government and other State and Territory governments to collaborate on national threatened species assessments using a common assessment method and to assist in the management of species and ecological communities.

If your submission contains information relevant to the assessment it may be provided to state and territory government agencies and scientific committees as part of this collaboration.

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If you wish your identity and personal information in your submission to be treated as confidential you must:

- *request your name be treated as confidential, and*
- *not include any of your personal information in the main text of the submission or attachments so that it can be easily removed.*

Professor Angela Moles, FRSN
Chairperson
NSW Threatened Species Scientific Committee

NSW Threatened Species Scientific Committee

Publication exhibition period: 10/04/2026 – 3/07/2026

Preliminary Determination

The NSW Threatened Species Scientific Committee, established under the *Biodiversity Conservation Act 2016* (the Act), has made a Preliminary Determination to support a proposal to list Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion as an ENDANGERED ECOLOGICAL COMMUNITY in Part 2 of Schedule 2 of the Act and to remove the Lowland Grassy Woodland in the South East Corner Bioregion from Part 2 of Schedule 2. Listing of Endangered Ecological communities is provided for by Part 4 of the Act.

Summary of Conservation Assessment

Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion was found to be eligible for listing as Endangered under Clauses 4.9(b) and 4.10(b)(d i)(e)(f ii).

The main reasons for this ecological community being eligible for listing as Endangered under these clauses are: (1) it has undergone a large historical reduction in geographic distribution since 1750; (2) it has a highly restricted geographic distribution and there are threatening processes that are likely to cause continuing decline in geographic distribution and biotic interactions in the near future; and (3) the ecological community occurs at a very low number (2–4) of threat-defined locations.

This determination contains the following information:

- Parts 1 & 2:** Section 1.6 of the Act defines an ecological community as “an assemblage of species occupying a particular area”. These features of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion are described in Parts 1 and 2 of this Determination, respectively.
- Part 3:** Part 3 of this Determination describes the eligibility for listing of this ecological community in Part 2 of Schedule 2 of the Act according to criteria as prescribed by the *Biodiversity Conservation Regulation 2017*:
- Part 4:** Part 4 of this Determination provides additional information intended to aid recognition of this ecological community in the field.

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Part 1. Assemblage of species

- 1.1 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion (sometimes referred to in this Determination as "the ecological community") is characterised by the assemblage of species listed below.

<i>Acacia implexa</i>	<i>Acacia mearnsii</i>
<i>Acaena echinata</i>	<i>Allocasuarina littoralis</i>
<i>Angophora floribunda</i>	<i>Anthosachne scabra</i>
<i>Austrostipa rudis</i> subsp. <i>nervosa</i>	<i>Bossiaea buxifolia</i>
<i>Breynia oblongifolia</i>	<i>Bursaria spinosa</i>
<i>Carex breviculmis</i>	<i>Carex inversa</i>
<i>Cassinia aculeata</i>	<i>Cassinia longifolia</i>
<i>Cassinia trinerva</i>	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>
<i>Clematis glycinoides</i> var. <i>glycinoides</i>	<i>Cymbopogon refractus</i>
<i>Dianella revoluta</i> var. <i>revoluta</i>	<i>Dichelachne micrantha</i>
<i>Dichondra repens</i>	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>
<i>Echinopogon ovatus</i>	<i>Einadia hastata</i>
<i>Eragrostis leptostachya</i>	<i>Eucalyptus baueriana</i>
<i>Eucalyptus bosistoana</i>	<i>Eucalyptus globoidea</i>
<i>Eucalyptus melliodora</i>	<i>Eucalyptus tereticornis</i>
<i>Euchiton japonicus</i>	<i>Exocarpos cupressiformis</i>
<i>Galium leiocarpum</i>	<i>Geitonoplesium cymosum</i>
<i>Geranium solanderi</i> var. <i>solanderi</i>	<i>Glycine clandestina</i>
<i>Glycine tabacina</i>	<i>Grona varians</i>
<i>Hardenbergia violacea</i>	<i>Hydrocotyle laxiflora</i>
<i>Hypericum gramineum</i>	<i>Imperata cylindrica</i>
<i>Lepidosperma laterale</i>	<i>Lobelia purpurascens</i>
<i>Lomandra longifolia</i>	<i>Lomandra multiflora</i> subsp. <i>multiflora</i>
<i>Melicytus dentatus</i>	<i>Microlaena stipoides</i> var. <i>stipoides</i>
<i>Opercularia aspera</i>	<i>Opercularia varia</i>
<i>Oplismenus imbecillis</i>	<i>Oxalis perennans</i>
<i>Oxytes brachypoda</i>	<i>Ozothamnus argophyllus</i>
<i>Ozothamnus diosmifolius</i>	<i>Panicum effusum</i>
<i>Pellaea falcata</i>	<i>Persoonia linearis</i>
<i>Pittosporum undulatum</i>	<i>Poa labillardierei</i> var. <i>labillardierei</i>
<i>Poa meionectes</i>	<i>Pteridium esculentum</i>
<i>Rubus parvifolius</i>	<i>Rumex brownii</i>
<i>Rytidosperma longifolium</i>	<i>Rytidosperma pilosum</i>
<i>Rytidosperma racemosum</i> var. <i>racemosum</i>	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>
<i>Solanum pungetium</i>	<i>Themeda triandra</i>
<i>Veronica plebeia</i>	<i>Wahlenbergia communis</i>
<i>Wahlenbergia gracilis</i>	<i>Zornia dyctiocarpa</i> var. <i>dyctiocarpa</i>

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- 1.2 The species listed above are vascular plants, however Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion also includes micro-organisms, fungi and cryptogamic plants as well as vertebrate and invertebrate fauna. These components of the ecological community are less well documented but are critical to its long-term viability.

The total species list of the ecological community across all occurrences is likely to be considerably larger than that given above. Due to variation across the range of the ecological community, not all of the above species are present at every site, and many sites may also contain species not listed above. Annual species, geophytes and some other rain-responsive species may not be detectable at certain times of the year or in some years, but the species may be represented below ground in the soil seed bank or as dormant structures such as bulbs, corms, rhizomes, rootstocks or lignotubers.

Characteristic species may be abundant or rare and comprise only a subset of the complete list of species recorded in known examples of the ecological community. Some characteristic species show a high fidelity (are relatively restricted) to the ecological community, but may also occur in other communities, while others are more typically found in a range of communities.

The number and identity of species recorded at a site is a function of ecological condition, sampling scale and effort. In general, the number of species recorded is likely to increase with the size and heterogeneity of the site and there is a greater possibility of recording species that are rare in the landscape.

Species presence and relative abundance (dominance) will vary from site to site as a function of environmental factors such as soil properties (chemical composition, texture, depth, drainage), topography, climate and through time as a function of disturbance (e.g., fire, historical timber harvesting, grazing) and weather (e.g., flooding, drought, extreme heat or cold).

Part 2. Particular area occupied by the ecological community

- 2.1 The assemblage of species which characterise the Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion are listed in Part 1.1. This bioregion is defined by the Interim Biogeographic Regionalisation for Australia, Version 7 (SEWPaC 2012).
- 2.2 It is the intent of the NSW Threatened Species Scientific Committee that all occurrences of the ecological community (both recorded and as yet unrecorded, and independent of their condition) that occur within this bioregion be covered by this Determination.

Part 3. Eligibility for listing

- 3.1 This Determination of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion updates the description and known distribution of an earlier listing of Lowland Grassy Woodland in the South

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East Corner Bioregion (NSW Scientific Committee 2007, and minor amendment 2011) based on information that has become available since that earlier Determination.

- 3.2 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion has undergone a very large reduction in distribution due to vegetation clearing (Keith and Bedward 1999, Thomas *et al.* 2000, Tindall *et al.* 2004, Tozer *et al.* 2010). The total remaining mapped extent of the ecological community is estimated to be less than 14,000 ha, representing approximately an 80% reduction in its distribution since the time of European settlement (Tozer *et al.* 2010). This magnitude of reduction meets the thresholds for the category of Endangered under IUCN Red List Criterion A3 (IUCN 2024).
- 3.3 Mapping of the Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion (Tozer *et al.* 2010) shows the extent of occurrence (EOO) to be 8,467 km² based on a minimum convex polygon enclosing known occurrences of the ecological community, the method of assessment recommended by IUCN (2024). This EOO, in combination with evidence on threats, number of locations and continuing decline outlined in paragraphs 3.5, 3.6 and 3.7, meets the thresholds for the category of Endangered under IUCN Red List Criterion B1a(i)bc (IUCN 2024).
- 3.4 The area of occupancy (AOO) was estimated to be 66 grid cells (10 x 10 km), by counting the number of cells occupied, excluding those that account cumulatively for less than 1% of the total mapped extant area of the ecological community, as recommended for assessing AOO by IUCN (2024). The AOO does not meet the thresholds for any category of threat under criterion B2 (IUCN 2024).
- 3.5 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion has been, and continues to be, threatened by clearing and fragmentation, weed invasion, livestock grazing and pasture management, climate change, rural tree dieback and the disruption of ecological processes associated with a loss of key biota (NSW Scientific Committee 2026). The impacts from these threats may occur independently of each other or interact, with further details given in paragraphs 3.7–3.18.
- 3.6 Three Local Government Areas (LGAs) (Bega Valley, Eurobodalla and Queanbeyan-Palerang) are known to contain Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion. An estimated 780 ha of the ecological community is thought to also occur in conservation reserves (Tozer *et al.* 2010). The LGAs are primarily rural and regulated under the *Local Land Services Act 2013*, so that the ecological community is estimated to occur at 2–4 threat-defined locations based on localized clearing and associated degradation as the most serious plausible threat (IUCN 2024).
- 3.7 Almost all of the remaining area of the ecological community occurs on private land or on public easements, where its geographic distribution is undergoing a continuing decline due to small-scale clearing (DPE 2022b).
- 3.8 Extensive clearing of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion has resulted in fragmentation and loss of

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ecological connectivity. The remaining area of the ecological community is severely fragmented, with more than 95% of mapped extant patches estimated to be less than 10 ha (Tozer *et al.* 2010). The integrity and survival of small, isolated stands is impaired by the small subpopulation size of many species, enhanced risks from environmental stochasticity, disruption to animal movements, pollination and dispersal of fruits or seeds, and likely reductions in the genetic diversity of isolated populations (Young *et al.* 1996, Young and Clarke 2000; Haddad *et al.* 2015).

- 3.9 Fragmentation is likely to have altered fire frequencies within some patches, which may reduce the viability of some native plant populations (Clarke 2000). Fragmentation of habitat and disruption of these ecological processes contribute to a large reduction in the function of the ecological community.
- 3.10 Weed invasion poses a major threat to Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion, with introduced perennial grasses having particularly serious impacts (Miles 2002). Several of these exotic species, particularly grasses, form a dense ground layer capable of out-competing indigenous plants, reducing both reproduction and survival (Schlienzauer *et al.* 2021).
- 3.11 Moderate to heavy nutrient enrichment via application and drift of fertilisers and overgrazing by livestock and the feral European rabbit pose ongoing threats to Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion. These processes result in the decline and disappearance of some plant species, including shrubs and herbs, and compaction and erosion of topsoil, making it difficult for a diverse native understorey to re-establish (Dorrough *et al.* 2004). The effects of such overgrazing may be exacerbated under drought conditions.
- 3.12 Almost all of the remaining area of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is regrowth forest and woodland from past clearing activities (Miles 2005). Some of the area of the ecological community that is now devoid of woody plant species retains a suite of native grasses and forbs in the ground layer.
- 3.13 The condition of remaining occurrences of the ecological community ranges from relatively intact to highly degraded. Some remnants of the ecological community may consist of only a native overstorey or only a native understorey but may still support important floral and faunal elements of the assemblage of species.
- 3.14 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion has undergone a very substantial loss of native mammal fauna since European settlement. This is best documented in the Bega Valley, where Lunney and Leary (1988) concluded, after an examination of historical and contemporary records, that at least six native mammal species had become locally extinct, including the Wallaroo (*Macropus robustus*), the Parma Wallaby (*Macropus parma*), the red-necked Pademelon (*Thylogale thetis*), the Tasmanian Bettong (*Bettongia gaimardi*), the Eastern Quoll (*Dasyurus viverrinus*) and the Brush-tailed Phascogale (*Phascogale tapoatafa*). The loss

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of habitat, invasion by feral predators and hunting activities were implicated as causes of these extinctions.

- 3.15 Tall trees approximating the stature of the ecological community prior to European settlement remain principally as isolated individuals within paddocks. These trees have important habitat features that provide habitat for a range of vertebrate and invertebrate fauna. These and other remnant and regrowth trees undergo episodes of elevated mortality related to drought, climate change, eutrophication, and recurring insect attack consistent with rural tree decline (Reid and Landsberg 2000; Nolan *et al.* 2021). Loss of these large trees, which provide habitat resources for a range of fauna, contributes to the large reduction in ecological function of the ecological community.
- 3.16 Fragmentation of habitat, overgrazing and erosion, changes in structure and species composition, loss of key fauna, and the loss of habitat resources for a range of fauna, disrupts ecological processes in Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion. The mechanisms of these threats contribute to a large reduction in the ecological functioning of the ecological community, increasing the risk of ecological collapse.
- 3.17 ‘Clearing of native vegetation’, ‘Invasion of native plant communities by exotic perennial grasses’, ‘Competition and grazing by the feral European Rabbit, *Oryctolagus cuniculus*’, ‘Loss of hollow-bearing trees’ are each listed as a Key Threatening Process under the *Biodiversity Conservation Act 2016*.
- 3.18 Criteria for listing
Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is eligible to be listed as an Endangered Ecological Community in accordance with Part 4 of the Act as, in the opinion of the NSW Threatened Species Scientific Committee, it is facing a very high risk of ecological collapse in Australia in the near future, as determined in accordance with the following criteria as prescribed by the *Biodiversity Conservation Regulation 2017*:

Assessment against Biodiversity Conservation Regulation 2017 criteria

The Clauses for assessment of ecological communities are listed below for reference.

Overall Assessment Outcome: Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion was found to be eligible for listing as Endangered under Clauses 4.9(b) and 4.10(b)(d i)(e)(f ii).

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**Clause 4.9 – Reduction in geographic distribution of ecological community
(Equivalent to IUCN criterion A)**

Assessment Outcome: Endangered under Clause 4.9(b)

The ecological community has undergone or is likely to undergo within a time frame appropriate to the life cycle and habitat characteristics of its component species:			
	(a)	for critically endangered ecological communities	a very large reduction in geographic distribution
	(b)	for endangered ecological communities	a large reduction in geographic distribution
	(c)	for vulnerable ecological communities	a moderate reduction in geographic distribution

**Clause 4.10 - Restricted geographic distribution of ecological community
(Equivalent to IUCN criterion B)**

Assessment Outcome: Endangered under Clause 4.10(b)(d i)(e)(f ii)

The ecological community's geographic distribution is:			
	(a)	for critically endangered ecological communities	very highly restricted
	(b)	for endangered ecological communities	highly restricted
	(c)	for vulnerable ecological communities	moderately restricted
and at least 1 of the following conditions apply:			
	(d)	there is a projected or continuing decline in any of the following:	
		(i)	a measure of spatial extent appropriate to the ecological community,
		(ii)	a measure of environmental quality appropriate to the characteristic biota of the ecological community,
		(iii)	a measure of disruption to biotic interactions appropriate to the characteristic biota of the ecological community,
	(e)	There are threatening processes that are likely to cause continuing decline in either geographic distribution, environmental quality or biotic interactions within the near future,	
	(f)	The ecological community exists at:	

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	(i)	for critically endangered ecological communities	an extremely low number of locations
	(ii)	for endangered ecological communities	a very low number of locations
	(iii)	for vulnerable ecological communities	a low number of locations

Clause 4.11 – Environmental degradation of ecological community

(Equivalent to IUCN criterion Clause C)

Assessment Outcome: Data Deficient

The ecological community has undergone or is likely to undergo within a time span appropriate to the life cycle and habitat characteristics of its component species:			
	(a)	for critically endangered ecological communities	a very large degree of environmental degradation
	(b)	for endangered ecological communities	a large degree of environmental degradation
	(c)	for vulnerable ecological communities	a moderate degree of environmental degradation

Clause 4.12 – Disruption of biotic processes or interactions in ecological community

(Equivalent to IUCN criterion D)

Assessment Outcome: Data Deficient

The ecological community has undergone or is likely to undergo within a time frame appropriate to the life cycle and habitat characteristics of its component species:			
	(a)	for critically endangered ecological communities	a very large disruption of biotic processes or interactions
	(b)	for endangered ecological communities	a large disruption of biotic processes or interactions
	(c)	for vulnerable ecological communities	a moderate disruption of biotic processes or interactions

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Clause 4.13 – Quantitative analysis of probability of collapse of ecological community

(Equivalent to IUCN criterion E)

Assessment Outcome: Data Deficient

The probability of collapse of the ecological community is estimated to be:			
	(a)	for critically endangered species	extremely high
	(b)	for endangered ecological communities	very high
	(c)	for vulnerable species	high

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Chairperson
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Part 4. Additional information about the ecological community

The following information is additional to that required to meet the definition of an ecological community under the Act, but provides supplementary descriptors (Preston and Adam 2004) to assist in the recognition of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion (sometimes referred to in this Determination as "the ecological community") in the field. Note that Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion can occur outside of these abiotic descriptors providing the plant species assemblage is present and the locality of the occurrence is within the South East Corner Bioregion. The assemblage of species and particular area that define the ecological community are described in Parts 1 and 2 of this Determination, respectively.

- 4.1 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is one of several related grassy woodland plant communities (*sensu* Keith 2004) which occur in south-eastern New South Wales.
- 4.2 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is currently known to occur within the Local Government Areas of Bega Valley, Eurobodalla and Queanbeyan-Palerang, but may occur elsewhere in the South East Corner Bioregion. This bioregion is defined by the Interim Biogeographic Regionalisation for Australia, Version 7 (SEWPaC 2012).
- 4.3 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion includes Bega and Candelo Dry Grass Forest (map units 20 and 21, respectively) of Keith and Bedward (1999), e20p229 Southeast Lowland Grassy Woodland of Tozer *et al.* (2010), and parts of NSW Plant Community Types PCT 3325 South Coast Valley Flats Ribbon Gum Forest, PCT 3332 Southeast Lowland Grassy Woodland, and PCT 4138 Araluen Valley Flats Red Gum Forest NSW Plant Community Types (DPE 2022a).

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- 4.4 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is broadly aligned with, and includes, the 'Lowland Grassy Woodland in the South East Corner Bioregion community' listed under the *Environmental Protection and Biodiversity Conservation Act 1999* in 2013 (CTSSC 2013).
- 4.5 The Commonwealth listing advice for 'Lowland Grassy Woodland in the South East Corner Bioregion community' excludes some patches on the basis of artificial condition or structure thresholds (including patch size, ground cover and tree density). Such patches may be included within this Determination of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion community if they contain some of the assemblage of species in the particular area described in Part 1.
- 4.6 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is characterised by an overstorey that is usually dominated by *Eucalyptus tereticornis* (forest red gum), often with *E. globoidea* (white stringybark) and/or *Angophora floribunda* (rough-barked apple) and other eucalypts at some sites. For example, *E. melliodora* (yellow box) and *E. pauciflora* (snow gum; white sally) may be locally common within the ecological community while being comparatively rare on the south coast lowlands.
- 4.7 Other tree species include *E. baueriana* (blue box), *E. bosistoana* (coastal grey box) and *E. maidenii* (Maiden's blue gum), which may occur in transitional stands with adjacent communities in which they are more common, and *E. viminalis* (ribbon gum) associated with lower slopes adjacent to major streamlines.
- 4.8 The understorey often includes an open stratum of small trees dominated by *Acacia mearnsii* (black wattle), *A. implexa* (hickory wattle) or *Exocarpos cupressiformis* (native cherry) and an open shrub stratum that commonly includes *Bursaria spinosa* (blackthorn), *Cassinia* spp. and/or *Ozothamnus diosmifolius* (white dogwood). Shrubs may attain high densities in localised areas in response to changes in grazing or fire regimes.
- 4.9 The grassy ground cover is typically dominated by species including *Themeda triandra* (kangaroo grass), *Microlaena stipoides* var. *stipoides* (weeping grass), *Eragrostis leptostachya* (paddock lovegrass) and/or *Echinopogon ovatus* (forest hedgehog grass) with forbs such as *Dichondra repens* (kidney weed), *Grona varians* (slender tick trefoil), *Hydrocotyle laxiflora* (stinking pennywort), *Hypericum gramineum* (small St John's wort), *Glycine clandestina* and the fern *Cheilanthes sieberi* subsp. *sieberi* (poison rock fern).
- 4.10 The tree canopy may be completely absent in areas of derived native grassland where tree removal has occurred. With the removal of the canopy, access to additional light and soil water can favour some species in the groundlayer over others, such that derived native grassland areas may be dominated by only a few of the characteristic species (Prober 2002).
- 4.11 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion has undergone a very substantial loss of native mammal fauna since European settlement (Lunney and Leary 1988). Despite these

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losses, the ecological community supports a variety of fauna. These include larger mammalian herbivores (e.g., kangaroos and wallabies), smaller ground-dwelling mammals (e.g., bandicoots and dasyurids), arboreal mammals (e.g., possums and gliders), bats, woodland birds and reptiles (CTSSC 2013). Native mammals play a key role in managing invertebrate impacts on already stressed trees (e.g., Smith 1982).

- 4.12 The structure of the ecological community varies depending on past and current disturbances, particularly clearing and grazing. Contemporary tree-dominated stands of the ecological community are largely relics or regrowth of originally taller forests and woodlands, which are likely to have had scattered shrubs and a largely continuous grassy groundcover. At some sites, mature trees may exceed 40 m, although regrowth stands may be shorter than 10 m.
- 4.13 After total or partial clearing of Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion the tree canopy may remain sparse or may regrow to form dense stands of saplings and small trees, which are typically associated with a ground layer of reduced cover and diversity. Either or both of the overstorey and mid-stratum may be absent from the ecological community, or the ecological community may persist with the overstorey present and a mid- and/or ground-stratum dominated by perennial exotic species. Native grasslands derived from clearing of the woodland and forest are also part of this ecological community if they contain characteristic non-woody species listed in Part 1 above.
- 4.14 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion is associated with rain shadow areas of the south coast and hinterland of New South Wales. These rain shadow areas receive less rainfall than more elevated terrain that partially surrounds them, with mean annual rainfall typically in the range of 700–1,100mm.
- 4.15 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion 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.
- 4.16 Throughout its range, Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion may also occur on the margins of other geological units where these adjoin one of the units listed above and the influence of an outcropping unit may extend beyond its mapped boundaries (e.g., due to factors such as downslope soil movement). NSW Seamless Geology v2.1 mapping should be used only as a guide, as it has been produced for use at a regional scale of 1:100,000 or 1:250,000.
- 4.17 This ecological community shares some characteristics with the Illawarra and South Coast Lowland Forest and Woodland and Derived Native Grassland in the Sydney Basin and South East Corner Bioregions Endangered ecological community. Compared with Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion, that ecological community extends further north, is generally confined to more coastal areas typically within c. 30 km of the coastline (CTSSC 2016), occurs within areas receiving

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mean annual rainfall of 900–1,300 mm (*cf.* 700–1,100 mm, paragraph 4.11) and some elements of its assemblage of species are typically associated with moister or more sheltered environments (DPE 2022a). Unlike the ecological community described in this Determination, Illawarra and South Coast Lowland Forest and Woodland and Derived Native Grassland in the Sydney Basin and South East Corner Bioregions is currently not known to occur within the South East Coastal Ranges IBRA subregion (SEWPaC 2012) which represents a generally drier rain shadow ecotype.

- 4.18 Lowland Grassy Woodland and Derived Native Grassland in the South East Corner Bioregion may contain the following threatened animal and plant species listed under the *Biodiversity Conservation Act 2016* (BC Act) or the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

CR = Critically Endangered; EN = Endangered; VU = Vulnerable.

Flora	Common name	BC Act	EPBC Act
<i>Acacia georgensis</i>	Dr George Mountain wattle	VU	VU
<i>Correa baeuerlenii</i>	chef's hat correa	VU	VU
<i>Eucalyptus kartzoffiana</i>	Araluen gum	VU	VU
<i>Leucochrysum albicans</i> var. <i>tricolor</i>	hoary sunray	EN	EN
<i>Pomaderris cotoneaster</i>	cotoneaster pomaderris	EN	EN
<i>Thesium australe</i>	austral toadflax	VU	VU
<i>Zieria adenophora</i>	Araluen zieria	CR	CR
<i>Zieria tuberculata</i>	Warty zieria	VU	VU
Fauna	Common name	BC Act	EPBC Act
<i>Anthochaera phrygia</i>	regent honeyeater	CR	CR
<i>Artamus cyanopterus cyanopterus</i>	dusky woodswallow	VU	
<i>Burhinus grallarius</i>	bush stone-curlew	EN	
<i>Callocephalon fimbriatum</i>	gang-gang cockatoo	EN	EN
<i>Calyptorhynchus lathami lathami</i>	glossy black cockatoo	VU	VU
<i>Chalinolobus dwyeri</i>	large-eared pied bat	EN	EN
<i>Chthonicola sagittata</i>	Speckled warbler	VU	
<i>Circus assimilis</i>	spotted harrier	VU	
<i>Climacteris picumnus victoriae</i>	brown treecreeper	VU	VU

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Fauna	Common name	BC Act	EPBC Act
<i>Daphoenositta chrysoptera</i>	varied sittella	VU	
<i>Dasyurus maculatus</i>	spotted-tailed quoll	VU	EN
<i>Ephippiorhynchus asiaticus</i>	black-necked stork	EN	
<i>Falco subniger</i>	black falcon	VU	
<i>Glossopsitta pusilla</i>	little lorikeet	VU	
<i>Haliaeetus leucogaster</i>	white-bellied sea eagle	VU	
<i>Heleioporus australiacus</i>	giant burrowing frog	VU	VU
<i>Hieraaetus morphnoides</i>	little eagle	VU	
<i>Lathamus discolor</i>	swift parrot	EN	CR
<i>Lophoictinia isura</i>	square-tailed kite	VU	
<i>Melithreptus gularis gularis</i>	black-chinned honeyeater	VU	
<i>Micronomus norfolkensis</i>	eastern coastal free-tailed bat	VU	
<i>Myotis macropus</i>	southern myotis	VU	
<i>Ninox connivens</i>	barking owl	VU	
<i>Ninox strenua</i>	powerful owl	VU	
<i>Pandion cristatus</i>	eastern osprey	VU	
<i>Petauroides volans</i>	greater glider	EN	EN
<i>Petaurus norfolcensis</i>	squirrel glider	VU	
<i>Petroica boodang</i>	scarlet robin	VU	
<i>Phascogale tapoatafa</i>	brush-tailed phascogale	VU	
<i>Phascolarctos cinereus</i>	koala	EN	EN
<i>Pteropus poliocephalus</i>	grey-headed flying fox	VU	VU
<i>Sminthopsis leucopus</i>	white-footed dunnart	VU	
<i>Stagonopleura guttata</i>	diamond firetail	VU	VU
<i>Tyto novaehollandiae</i>	Australian masked owl	VU	
<i>Tyto tenebricosa</i>	sooty owl	VU	

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