

Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions

Introduction

These guidelines provide background information to assist landholders to identify remnants of Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions (known here as Tableland Basalt Forest). For more detailed information, refer to the NSW Scientific Committee's Determination Advice at

www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=20074

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 Tableland Basalt Forest?

Tableland Basalt Forest is an open forest or woodland that typically occurs on undulating or hilly terrain about 600–900 m above sea level, on relatively fertile loam or clay soils derived primarily from basalt, but which may also be derived from mudstones, granites, alluvium and other substrates. Annual rainfall ranges approximately from 750–1100 mm. Tableland Basalt Forest has an open canopy of eucalypts with sparse small trees and shrubs and a dense ground cover of herbs and grasses. Common trees include ribbon gum (*Eucalyptus viminalis*), narrow-leaved peppermint (*E. radiata* subsp. *radiata*),



Mountain Gum (*E. dalrympleana*)
Photograph: P Richards



Potential occurrence of Tableland Basalt Forest

mountain gum (*E. dalrympleana* subsp. *dalrympleana*) and white sally or snow gum (*E. pauciflora*). Disturbed stands may lack either or both of the tree and shrub layers. The community therefore includes 'derived' native grasslands which result from removal of the tree and shrub layers from the woodland and forest forms of the community, and retain ground cover species characteristic of the community (see species table below). East of Mittagong, Bowral and Moss Vale, Tableland Basalt Forest is replaced by Robertson Basalt Tall Open-forest and Mount Gibraltar Forest. It may also adjoin areas of Southern Highlands Shale Woodland. These three communities are listed as endangered ecological communities under the *Threatened Species Conservation Act 1995*. Vegetation with characteristics that are intermediate between Robertson Basalt Tall Open-forest, Mount Gibraltar Forest, Southern Highlands Shale Woodland and Tableland Basalt Forest are covered collectively under these communities.

Where is Tableland Basalt Forest found?

Tableland Basalt Forest is found in the Sydney Basin and South Eastern Highlands bioregions. It is known from the local government areas of Bathurst Regional, Goulburn Mulwaree, Oberon, Palerang, Shoalhaven, Upper Lachlan and Wingecarribee but may occur elsewhere within the Sydney Basin and South Eastern Highlands bioregions.

Why is it important?

Only a small area (estimated to be between 5-20%) of the original distribution of Tableland Basalt Forest remains, and much of this is in poor condition. A large proportion of the remainder of this community is threatened by continued small-scale clearing; fragmentation leading to loss of ecological connectivity; significant structural and floristic modification through loss of large trees resulting in loss of fauna habitat; overgrazing of palatable species, resulting in loss of flora species characteristic of the community, and invasion by exotic weeds.

Description of the community

The tree layer

Tableland Basalt Forest is dominated by an open eucalypt canopy of variable composition. Ribbon gum (*Eucalyptus viminalis*), narrow-leaved peppermint (*E. radiata*), mountain gum (*E. dalrympleana* subsp. *dalrympleana*) and white sally or snow gum (*E. pauciflora*) may occur in the community in pure stands or in varying combinations.

The shrub layer

When present, a sparse layer of small trees and shrubs may include blackwood (*Acacia melanoxylon*), silver wattle (*A. dealbata*) or native raspberry (*Rubus parvifolius*).



Tableland Basalt Forest – remnant paddock trees in derived native grassland, near Werai Photograph: P Richards



Snow gum (*E. pauciflora*)
Photograph: P Richards

Characteristic species

A list of canopy trees and shrub-layer plants that characterise a patch of Tableland Basalt Forest is provided in the table below. Not all the species listed need to occur at any one site for it to be considered Tableland Basalt Forest, and there may also be additional species that are not included in the table.

Scientific name	Common name
<i>Acacia melanoxylon</i>	Blackwood
<i>Acaena novae-zelandiae</i>	Bidgee-widgee
<i>Asperula conferta</i>	Common woodruff
<i>Austrodanthonia pilosa</i>	Wallaby grass
<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Wallaby grass
<i>Austrostipa rudis</i>	–
<i>Carex inversa</i>	–
<i>Cymbonotus lawsonianus</i>	–
<i>Desmodium varians</i>	Slender tick-trefoil
<i>Dichelachne inaequiglumis</i>	Plumegrass
<i>Dichondra</i> spp.	Kidney weed
<i>Echinopogon ovatus</i>	Hedgehog grass
<i>Einadia nutans</i>	–
<i>Elymus scaber</i> var. <i>scaber</i>	–
<i>Eucalyptus dalrympleana</i> subsp. <i>dalrympleana</i>	Mountain gum
<i>Eucalyptus pauciflora</i>	Snow gum, white sally
<i>Eucalyptus radiata</i> subsp. <i>radiata</i>	Narrow-leaved peppermint

Scientific name	Common name
<i>Eucalyptus viminalis</i>	Ribbon gum
<i>Geranium solanderi</i> var. <i>solanderi</i>	Native geranium
<i>Glycine microphylla</i>	–
<i>Hydrocotyle laxiflora</i>	Stinking pennywort
<i>Lomandra filiformis</i> subsp. <i>coriacea</i>	–
<i>Microlaena stipoides</i>	Weeping grass
<i>Oreomyrrhis eriopoda</i>	–
<i>Oxalis perennans</i>	–
<i>Plantago varia</i>	–
<i>Poa labillardierei</i> var. <i>labillardierei</i>	Tussock
<i>Poa sieberiana</i> var. <i>sieberiana</i>	Snow grass
<i>Pteridium esculentum</i>	Bracken fern
<i>Ranunculus lappaceus</i>	A buttercup
<i>Rubus parvifolius</i>	Native raspberry
<i>Rumex brownii</i>	–
<i>Stellaria pungens</i>	–
<i>Themeda australis</i>	Kangaroo grass
<i>Veronica plebeia</i>	Creeping speedwell
<i>Viola betonicifolia</i>	–
<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	Bluebell



Ribbon gum—bark on trunk
Photograph: P Richards



Snow grass (*Poa sieberiana*)
Photograph: P Richards



Kidney weed (*Dichondra repens*)
Photograph: P Richards

The ground layer

There is usually a dense to very dense grassy ground cover dominated by a range of native grasses including weeping grass (*Microlaena stipoides*), hedgehog grass (*Echinopogon ovatus*), wallaby grass (*Austrodanthonia racemosa*), *Austrostipa rudis*, tussock (*Poa labillardierei* var. *labillardierei*), snow grass (*Poa sieberiana* var. *sieberiana*) and kangaroo grass (*Themeda australis*). Forbs include *Stellaria pungens*, kidney weeds (*Dichondra* spp.), bidgee-widgee (*Acaena novae-zelandiae*), native geranium (*Geranium solanderi* var. *solanderi*), stinking pennywort (*Hydrocotyle laxiflora*), common woodruff (*Asperula conferta*), variable plantain (*Plantago varia*), mountain violet (*Viola betonicifolia*), and bracken fern (*Pteridium esculentum*).

Variation in the community

At heavily disturbed sites only some of the species which characterise the community may be present. In addition, above ground plants of some species may not be present, but may be represented below ground in the soil seed banks or as bulbs, corms, rhizomes or rootstocks. Undisturbed stands of the community may have either a woodland or forest structure. The structure of the community varies depending on past and current disturbances, particularly clearing and grazing. At some sites, mature trees may exceed 30 m tall, although regrowth stands may be shorter than 10 m. After total or partial clearing, 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 tree and shrub strata may be absent from the community, as a consequence of past disturbance. Native grasslands derived from clearing of the woodland and forest, are also part of this community if they contain characteristic non-woody species listed in the table above.

How can I identify an area of Tableland Basalt Forest?

The following are key characteristics to help identify areas of Tableland Basalt Forest.

- Is the site 600–900m above sea level in the Sydney Basin and South Eastern Highlands bioregions?
- Is the site on relatively fertile loam or clay soils derived mainly from basalt but also from other substrates?
- Is the vegetation a grassy open forest or woodland, or a native grassland (where trees and shrubs have been removed)?
- Does the tree layer, if present, contain any of the following: ribbon gum, narrow-leaved peppermint, mountain gum or white sally (snow gum)?

If you answer yes to the above questions, the area is likely to consist of Tableland Basalt Forest. Where difficulties arise with decisions on whether particular sites are Tableland Basalt Forest, expert advice may be needed.



Tableland Basalt Forest – remnant with grazed understorey in fragmented landscape Photograph: P Richards



Ribbon gum (*E. viminalis*) – paddock trees, near Tallong Photograph: P Richards

What does this mean for my property?

As a listed EEC under the *Threatened Species Conservation Act 1995*, Tableland Basalt Forest 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 may still be important remnants of Tableland Basalt Forest and be considered the EEC. Where difficulties arise with decisions on whether particular sites are Tableland Basalt Forest, expert advice may be needed.

Retaining mature native vegetation or EECs for conservation purposes may attract incentive funding. 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/eecfieldguidelines.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
- Brooker, M and Kleinig, D (1990) *Field guide to eucalypts of south-eastern Australia, volume 2*. Inkata, Melbourne VIC.
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- Tozer, MG, Turner, K, Simpson, C, Keith, DA, Beukers, P, MacKenzie, B, Tindall, D and Pennay, C (2006) *Native vegetation of south east NSW: a revised classification and map for the coast and eastern tablelands*. NSW Department of Environment and Climate Change and NSW Department of Infrastructure, Planning and Natural Resources.



Narrow-leaved peppermint (*E. radiata* subsp. *radiata*) Photograph: P Richards



Snow gum–bark Photograph: P Richards



Mountain gum–bark Photograph: P Richards



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Ribbon gum fruits with juvenile foliage in background
Photograph: P Richards



Blackwood (Acacia melanoxylon)
Photograph: P Richards



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