Environment, Climate Change & Water

Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar bioregions

Introduction

These guidelines provide background information to help landholders to identify remnants of the Endangered Ecological Community (EEC) Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar bioregions (known here as Semi-evergreen Vine Thicket). For more detailed information refer to the NSW Scientific Committee's Final Determination on the Department of Environment, Climate Change and Water (DECCW) Threatened Species website: www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10749

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 EEC is an ecological community listed under the *Threatened Species Conservation Act 1995* as being at risk of extinction unless threats affecting it are managed and reduced.

Although most ecological communities are recognised by their typical plant species, these communities include all the organisms that occur in that particular area. The survival of each species relies on complex interactions among all of the inhabitants of an ecological community, through biotic mechanisms such as food webs, mutualisms and pollination, and through abiotic mechanisms such as water, nitrogen and carbon cycles. Consequently, the loss of any species may have detrimental flow-on effects for the ecological functioning of the whole community.

What is Semi-evergreen Vine Thicket?

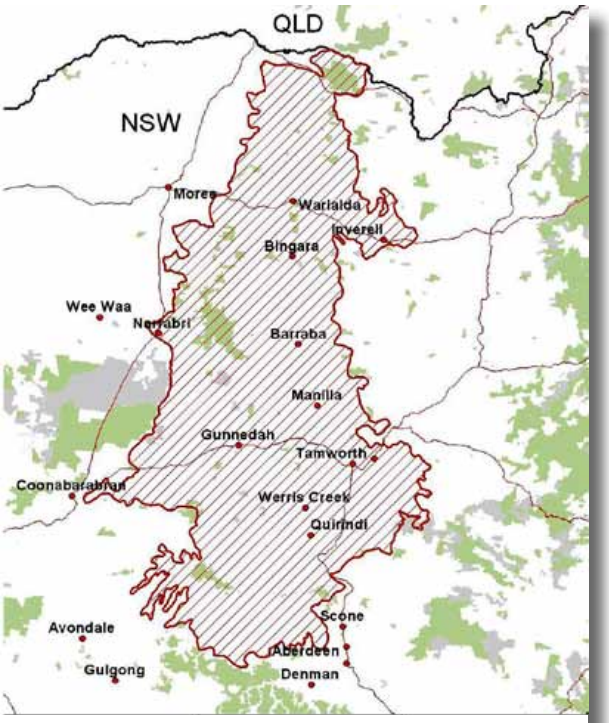
Semi-evergreen Vine Thicket is a low, dense form of dry rainforest or 'scrub' made up of vines, some shrub species and tree species that are related to coastal subtropical rainforest trees. Some of the trees are either regularly deciduous or sporadically shed their leaves in response to prevailing weather conditions. Taller eucalypts and cypress pines from surrounding woodland vegetation often emerge above the rainforest tree layer. Semi-evergreen Vine Thicket occurs on deep, loamy high-nutrient soils derived from basalt or other volcanic rocks, on sites that are relatively protected from fire and that have an annual average rainfall of around 750 mm. (See 'Identifying Semi-evergreen Vine Thicket EEC' for further help.)

Semi-evergreen Vine Thicket on Derra Derra Ridge near Bingara. Photo: John Benson. Image from NSWVCA database, courtesy of Botanic Gardens Trust, Sydney

This community is also listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Where is Semi-evergreen Vine Thicket found?

Semi-evergreen Vine Thicket has a scattered distribution near Gunnedah, Barraba and Bingara and north of Warialda on the NSW North West Slopes and Plains. It is currently known to occur within the Gunnedah, Gwydir, Moree Plains, Narrabri and Tamworth Regional Local Government Areas, but may occur elsewhere in the Brigalow Belt South and Nandewar bioregions.



The region where Semi-evergreen Vine Thicket EEC most typically occurs. The EEC may be found elsewhere in the Brigalow Belt South and Nandewar bioregions.

Why is it important?

Since European settlement substantial areas of Semi-evergreen Vine Thicket have been cleared for grazing and cropping. Clearing has continued in recent years. It is thought that grazing in remaining stands may adversely affect regeneration of the community. Much of the remaining area of the community occurs on private land or on public easements such as road reserves and stock routes, where it is threatened by clearing, grazing, weed invasion and inappropriate fire regimes.

Description of the community

The tree layer

Characteristic tree species are red olive plum (*Cassine australis* var. *angustifolia*), wilga (*Geijera parvifolia*), native olive (*Notelaea microcarpa* var. *microcarpa*) and peach bush (*Ehretia membranifolia*). Other tree species include quinine bush (*Alstonia constricta*), hard alectryon (*Alectryon subdentatus*) and *Planchonella cotinifolia* var. *pubescens*. There is often a taller layer of emergent trees typical of the surrounding woodlands such as white box (*Eucalyptus albens*), silver-leaved ironbark (*E. melanophloia*), belah (*Casuarina cristata*), kurrajong (*Brachychiton populneus*) and white cypress pine (*Callitris glaucophylla*).

Semi-evergreen Vine Thicket on Derra Derra Ridge near Bingara.
Photo: John Benson. Image from NSWVCA database, courtesy of Botanic Gardens Trust, Sydney.

Characteristic species list

A list of canopy trees and understorey plants that characterise a patch of Semi-evergreen Vine Thicket is provided in Table 1. Not all the species listed need to occur at any one site for it to be considered Semi-evergreen Vine Thicket, and there may 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 the site's disturbance history.

Table 1. Characteristic species recorded in the Semi-evergreen Vine Thicket EEC

Common name	Scientific name
Trees	
–	*Planchonella cotinifolia* var. *pubescens*
Brigalow	*Acacia harpophylla*
Hard alectryon	*Alectryon subdentatus*
Native olive	*Notelaea microcarpa* var. *microcarpa*
Peach bush	*Ehretia membranifolia*
Quinine bush, bitter bark	*Alstonia constricta*
Red olive plum	*Elaeodendron australe (=Cassine australis* var. *angustifolia)*
Shiny-leaved canthium	*Psydrax oleifolia (=Canthium oleifolium)*
Wilga	*Geijera parvifolia*
Shrubs and vines	
–	*Indigofera brevidens*
–	*Isotropis foliosa*
–	*Phyllanthus subcrenulatus*
Bead bush	*Spartothamnella juncea*
Currant bush	*Carissa ovata*
Gargaloo	*Parsonsia eucalyptophylla*
Poison pimelea	*Pimelea neo-anglica*
Sticky hop-bush	*Dodonaea viscosa* subsp. *angustifolia*
Sticky wallaby bush	*Beyeria viscosa*
Wonga vine	*Pandorea pandorana*
Ground layer	
Coolibah grass	*Thellungia advena*
Kidney weed	*Dichondra repens*
Poison rock fern	*Cheilanthes sieberi* subsp. *sieberi*
Porcupine grass, spinifex	*Triodia scariosa* subsp. *scariosa*
Purple wiregrass	*Aristida ramosa*
Tarvine	*Boerhavia dominii*

Isotropis foliosa. Photo: Lachlan Copeland

Geijera parviflora. Photo: Lachlan Copeland

Thellungia advena. Photo: Lachlan Copeland

The shrub layer

The shrub layer can be dense, mid dense or sparse. Typical shrubs include currant bush (*Carissa ovata*) sticky wallaby bush (*Beyeria viscosa*), bead bush (*Spartothamnella juncea*) and sticky hop-bush (*Dodonaea viscosa* var. *angustifolia*).

Vines

Vines are usually common and include gargaloo (*Parsonsia eucalytophylla*), wonga vine (*Pandorea pandorana*), native grape (*Cayratia clematidea*) and desert jasmine (*Jasminum lineare*).

The ground layer

The ground layer can be quite dense in open areas or sparse under dense tree or shrub canopies. Typical ground layer species include purple wiregrass (*Aristida ramosa*), tarvine *(Boerhavia dominii),* kidney weed *(Dichondra repens)* and coolibah grass *(Thellungia advena)*.

Variation in the community

Remaining remnants can vary in structure and species composition as a result of past and current management practices. At heavily disturbed sites only some of the species that 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 bank or as bulbs, corms, rhizomes or rootstocks. Small trees or saplings may dominate the community in relatively high densities after partial or total clearing.

Identifying Semi-evergreen Vine Thicket EEC

The following are key characteristics to help identify an area of Semi-evergreen Vine Thicket.

1. Is the site in the Brigalow Belt South or Nandewar bioregions of NSW?
2. Is the vegetation a low dry rainforest or 'scrub' with vines present?
3. Is the site on deep, loamy soils derived from basalt or other volcanic rocks?
4. Does the rainforest tree layer contain red olive plum, wilga, native olive or peach bush, often under a taller layer of white box, silver-leaved ironbark, belah, kurrajong and/or white cypress pine?
5. Are there any plant species present at the site from those listed as characteristic in Table 1? (See photos in this guideline, check with a local botanist, or consult reference books or NSW Flora Online: http://plantnet.rbgsyd.nsw.gov.au/).

If you answered yes to the above questions, your site is likely to consist of Semi-evergreen Vine Thicket EEC.

Semi-evergreen Vine Thicket, with white cypress pine emerging above the canopy, north of Couradda. Photo: Peter Richards

Alstonia constricta
Photo: Peter Richards

What does this mean for my property?

As an EEC listed under the *Threatened Species Conservation Act 1995*, Semi-evergreen Vine Thicket has significant conservation value and some activities may require consent or approval. Please contact DECCW or your local Catchment Management Authority (CMA) for further information.

Determining the conservation value of remnants

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

Retaining mature native vegetation or EECs for conservation purposes may attract incentive funding. Funding is allocated to landholders by local CMA according to the priorities set out in their Catchment Action Plans and strategies. For more information contact your local CMA or email: info@nativevegetation.nsw.gov.au

For further help

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/eecfielddidguidelines.htm

For more information on the Commonwealth-listed threatened ecological community go to http://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=24&status=Endangered

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

- Botanic Gardens Trust plant identification help: 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 (determinations use IBRA version 4 boundaries): www.environment.nsw.gov.au/bioregions/Bioregions.htm

Carissa ovata Photo: Peter Richards

Semi-evergreen Vine Thicket with emergent white cypress pine, north of Couradda. Photo: Peter Richards

- NSW Scientific Committee Determinations: www.environment.nsw.gov.au/committee/ListofScientificCommitteeDeterminations.htm
- Thackway, R, & Creswell, I. (eds) (1995) *An interim biogeographic regionalisation of Australia: a framework for establishing the national system of reserves.* (Australian Nature Conservation Agency: Canberra).
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- Curran, T. J., Clarke, P. J. & Bruhl, J. J. (2008) A broad typology of dry rainforests on the western slopes of New South Wales. *Cunninghamia* 10(3): 381–407.
- Harden, G. (ed) (1990–2002) *Flora of NSW Volumes 1–4 (*NSW University Press: Kensington).

Semi-arid Vine Thicket on northern side of Mt Binnalong, a basalt cap on the Liverpool Plains. Photo John Benson. Image from NSWVCA database, courtesy of Botanic Gardens Trust, Sydney.

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