Vegetation Community Profile

Messmate Stringybark (*Eucalyptus obliqua*) Open Forest over sclerophyll shrubs (ML0101PE)

Messmate Stringybark (*Eucalyptus obliqua*) is one of the few true forest trees to occur in South Australia. It grows to over 20 m tall in the Mt Lofty Ranges, with a single straight trunk and forms a relatively dense canopy. Messmate Stringybark Open Forest occurs in the higher rainfall central spine of the Mt Lofty Ranges. The understorey is dominated by a dense cover of mixed shrubs and the ground layer typically contains a dense cover of leaf litter and sedges, particularly Wire Rapier-sedge (*Lepidosperma semiteres*) and Mount Lofty Mat-rush (*Lomandra fibrata*).

In the Hills and Fleurieu region, there are very few examples of very old trees, most trees being regrowth from mechanical clearance or fire regrowth.

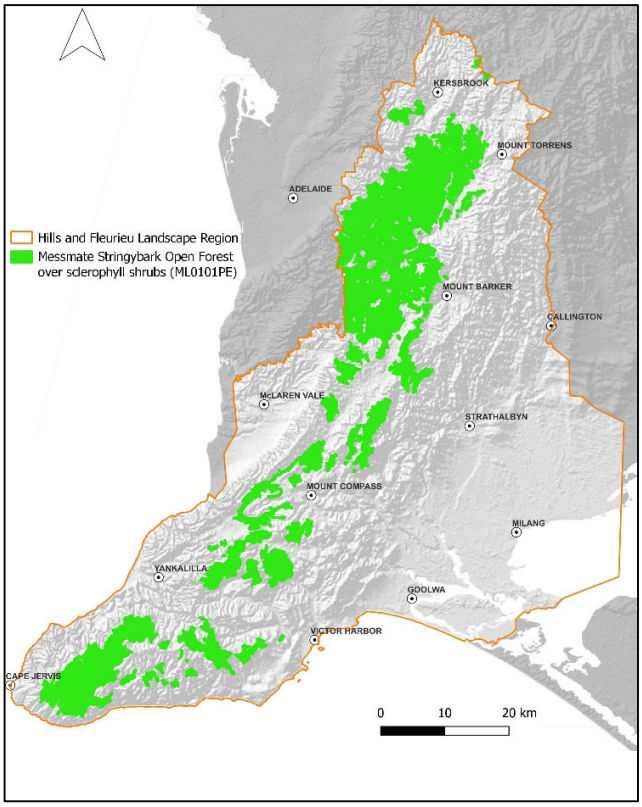

Figure 1: Pre-European mapping of Messmate Stringybark (*Eucalyptus obliqua*) Open Forest over sclerophyll shrubs within Hills and Fleurieu Landscape region

Distribution within the Hills and Fleurieu

The community occupies the central spine of the Mt Lofty Ranges, extending south from Inglewood/ Gumeracha with an almost continuous distribution to Mount Bold, and then a discontinuous distribution southwest from Macclesfield through Myponga to Deep Creek. Of the 49,400 ha mapped as being present before European settlement, only approximately 20% remains, with 10,700 ha being mapped in the Department for Environment and Water's extant mapping layer (Data SA 2025).

Messmate Stringybark Open Forest – tall straight trunks – over sedges, shrubs and Bracken Fern at Cleland National Park (Source: Tim Croft 2015)

Landform and aspect

The community occupies hill slopes, often steep, and often with a southerly aspect.

Soil types

Soils are well-drained soils and of moderate fertility. Commonly, the soils have a shallow surface texture of sandy loam to loamy sand, grading to a pale gravelly clay loam over clay. The surface soils are acidic, the soils being formed from rocks that are rich in silica, often quartzites (Adamson and Osborn 2024). Typically, the surface soil has up to 10% rock fragments (DEWNR undated a & b).

Rainfall

Messmate Stringybark occupies the highest rainfall zone of the Mt Lofty Ranges, occurring between 700 mm and 1000 mm per annum.

Revegetation

A table of plant species likely to have occurred in this community is provided at the end of this document. Please note that the list includes species likely to occur across the plant community's entire range within the Hills and Fleurieu Landscape region. There may be other plant species that occurred on your property with a more restricted distribution. A native plant nurseries list can be found on the Landscapes Hills and Fleurieu website.

Messmate Stringybark Open Forest over Bracken Fern, sparse shrubs and Yacca at Deep Creek Conservation Park (Source: T. Croft 2025)

Caring for Country and native vegetation

This vegetation community reflects the landscapes and ecosystems that existed at the time of European colonisation. First Nations peoples have cared for these lands for thousands of years, maintaining deep connections to Country through knowledge, culture, and stewardship. This guide supports efforts to understand, protect and restore native vegetation in a way that respects those enduring relationships.

Vegetation structural layers

Tree Layer

The community is characterised by Messmate Stringybark forming pure stands. The trees are generally over 10 m tall, and up to 20 m tall in sheltered high rainfall slopes such as at Cleland National Park, or in the high rainfall southern Fleurieu such as at Deep Creek Conservation Park. Like many other forest tree Eucalyptus species, it is a "light-demander", intolerant of shade. Old growth forests in the Mt Lofty Ranges would have contained well-spaced mature trees. In the gaps between the canopies, however, would have been relatively densely spaced young trees. In younger stands the combined canopy cover is typically 30% - 70%. Pink Gum (*Eucalyptus fasciculosa*) may be present as occasional understorey trees or as small clusters. When Pink Gum becomes more prominent, this is described as a separate community, namely Messmate Stringybark (*Eucalyptus obliqua*) over Pink Gum (*Eucalyptus fasciculosa*) Open Forest over sclerophyll shrubs (ML0801PE).

Silver Banksia (*Banksia marginata*) and Native Cherry (*Exocarpos cupressiformis*) are small trees that are commonly present.

Shrub Layer

The combined cover of the diverse shrub layer is relatively dense, with a combined cover of 30% – 70%. Most shrubs are sclerophyllous, having hard, leathery and often small leaves, an adaptation to survive hot dry summers. Widespread and common species include Mount Lofty Daisy-bush (*Olearia grandiflora*), Myrtle Wattle (*Acacia myrtifolia*), Common Heath (*Epacris impressa*), Prickly Guinea-flower (*Hibbertia exutiacies*), Erect Hakea (*Hakea carinata*), Beaked Hakea (*Hakea rostrata*), Narrow-leaf Bitter-pea (*Daviesia leptophylla*), Large-leaf Bush-pea (*Pultenaea daphnoides*) and Mount Lofty Ground-berry (*Acrotriche fasciculiflora*)

Fern Layer

Bracken (*Pteridium esculentum*) can range from absent to a dominant feature of the understorey

Groundcover Layer

The ground layer typically contains a dense cover of leaf litter and sedges, particularly Wire Rapier-sedge

(*Lepidosperma semiteres*) and Mount Lofty Mat-rush, (*Lomandra fibrata*). Although grasses are relatively rare, high rainfall species including Wiry Spear-grass (*Austrostipa muelleri*) and Reed Bent grasses (*Deyeuxia quadriseta*) are strongly associated with this community. Cleland's Poa (*Poa clelandii*) and Thick-stem Poa (*Poa crassicaudex*) are also widespread. Common herbs include Hairy Pink-bells (*Tetratheca pilosa*), Small-leaf Raspwort (*Gonocarpus tetragynus*), Native Primrose (*Goodenia blackiana*) and the annuals: Milkmaids (*Burchardia umbellata*) and Grass Trigger-plant (*Stylidium graminifolium*).

References

Data SA (2025). Native Vegetation Floristic Areas – NVIS – Statewide. *Government of South Australia*. https://data.sa.gov.au/data/dataset/native-vegetation-floristic-areas-nvis-statewide. Accessed April 2025.

DEWNR (undated a). Soil Characterisation Site data sheet. CH156A. Loam over friable brown clay on rock. *DEWNR Soil and Land Program*.

DEWNR (undated b). Soil Characterisation Site data sheet. CH175A. Gradational loam over clay on weathered rock. *DEWNR Soil and Land Program*.

Nicolle, D (2013). Native Eucalypts of South Australia. *Lane Print and Post,* Adelaide.

Acknowledgment

We gratefully acknowledge the valuable work and research of the staff and volunteers of the South Australian Seed Conservation Centre and Botanic Gardens of South Australia. The information available on their public websites 'Seeds of South Australia' and affiliated 'www.syzygium.xyz' has been widely referenced for the germination and propagation content of the Vegetation Community species lists.

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Preferred way to cite this information

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When citing multiple profiles:

Croft, S & Croft, T (2025). Pre-European Vegetation Community Profiles for the Hills and Fleurieu Landscape region. *Hills and Fleurieu Landscape Board*.

Messmate Stringybark (*Eucalyptus obliqua*) Open Forest over sclerophyll shrubs (ML0101PE)

Scientific Name	Common Name	Nursery Availability*	Propagation Method**	Seed Treatment***	Seed Propagation Difficulty****	Pollination	Links to further information
OVERSTOREY TREE (combined cover 30 - 70%)							
Eucalyptus obliqua	Messmate Stringybark	Y	S	N		Insects	Eucalyptus obliqua l
UNDERSTOREY TREES (combined cover 1 - 5%)							
Exocarpos cupressiformis	Native Cherry	N	S, C	Sc	D	Insect	Exocarpos cupressiformis - Australian Native Plants Society (Australia)
Acacia pycnantha	Golden Wattle	Y	S	HW, Sc		Insect, Birds	https://www.publish.csiro.au/BT/BT9880519
Banksia marginata	Silver Banksia	Y	S, C	N		Bird	https://aussiegreenthumb.com/silver-banksia-marginata-growing-guide/
MEDIUM AND TALL SHRUBS (combined cover 20 - 50%)							
Acacia myrtifolia	Myrtle Wattle	Y	S	HW, Sc		Insect	https://syzygium.xyz/saplants/Fabaceae/Acacia/Acacia_myrtifolia.html
Acacia verticillata ssp. ovoidea	Prickly Moses	Y	S	HW, Sc		Insect, Bird	Australian National Botanic Gardens - Growing Acacia.
Acrotriche fasciculiflora	Mount Lofty Ground-berry	N	S		D	Insect	Acrotriche fasciculiflora
Allocasuarina striata	Stalked Oak-bush	Y	S	CS		Wind	Allocasuarina striata
Daviesia leptophylla	Narrow-leaf Bitter-pea	Y	S	HW		Insect	Daviesia leptophylla | Australian Plants Society -pea/
Epacris impressa	Common Heath	N	S, C	DS, HW	D	Bird, Insect	https://anpsa.org.au/plant_profiles/epacris-impressa/
Hakea carinata	Erect Hakea	Y	S	N		Insect	https://www.picturethisai.com/care/propagate/Hakea_carinata.html
Hakea rostrata	Beaked Hakea	Y	S	N		Insect	https://www.australianplants.com/plants.aspx?id=1294
Hibbertia crinita	Guinea flower	Y	C		D	Insect	https://revegetation.org.au/?project=hibbertia-crinita
Isopogon ceratophyllus	Horny Cone-bush	Y	S, C	N			https://anpsa.org.au/plant_profiles/isopogon-ceratophyllus/
Leptospermum myrsinoides	Heath Tea-tree	Y	S, C	N		Insect	https://www.anbg.gov.au/leptospermum/leptospermum-myrsinoides.html
Leucopogon virgatus var. virgatus	Common Beard-heath	N	S, C	St		Insect	https://wtlandcare.org/details/leucopogon-virgatus/
Platylobium obtusangulum	Holly Flat-pea	Y	S, C	N, Sm		Insect	https://treeproject.org.au/seedlings/common-flat-pea/
Pultenaea daphnoides	Large-leaf Bush Pea	Y	S, C	HW, Sc		Insect	https://treeproject.org.au/seedlings/large-leaf-bush-pea-or-bitter-pea/
Pultenaea involucrata	Mount Lofty Bush-pea	N	S, C	HW, Sc		Insect	Pultenaea involucrata
Xanthorrhoea semiplana ssp. semiplana	Yacca	Y	S	N		Insect	Xanthorrhoea semiplana ssp. semiplana
LOW SHRUBS (combined cover 5 - 10%)							
Acrotriche serrulata	Cushion Ground-berry	N	S, C, D	N	D		https://www.botanikks.com/plants/acrotriche-serrulata/586467/1

Scientific Name	Common Name	Nursery Availability*	Propagation Method**	Seed Treatment***	Seed Propagation Difficulty****	Pollination	Links to further information
Hibbertia exutiacies	Prickly Guinea-flower	Y	C		D	Insect	https://plantselector.botanicgardens.sa.gov.au/Plants/Details/3379
Olearia grandiflora	Mount Lofty Daisy-bush	Y	S, C			Insect	https://syzygium.xyz/saplants/Asteraceae/Olearia/Olearia_grandiflora.html
Styphelia humifusa	Cranberry Heath	N	C	N	D	Bird, Insect	https://syzygium.xyz/saplants/Ericaceae/Styphelia/Styphelia_exarrhena.html
MAT PLANTS (combined cover 1 - 3%)							
Dichondra repens	Kidney Weed	Y	D			Wind	https://aussiegreenthumb.com/dichondra-repens-growing-guide/
Kennedia prostrata	Scarlet Runner	Y	S, C	HW		Insect	https://treeproject.org.au/seedlings/running-postman/
SEDGE/ TUSSOCKS (combined cover 5 - 40%)							
Dianella revoluta var. revoluta	Black-anther Flax-lily	Y	S, D	N		Insect	https://syzygium.xyz/saplants/Asphodelaceae/Dianella/Dianella_revoluta_var._revoluta.html
Lepidosperma semiteres	Wire Rapier-sedge	N	S, D			Wind	https://syzygium.xyz/saplants/Cyperaceae/Lepidosperma/Lepidosperma_semiteres.html
Lomandra fibrata	Mount Lofty Mat-rush	N	S, D	N		Insect	https://syzygium.xyz/saplants/Asparagaceae/Lomandra/Lomandra_fibrata.html
Lomandra micrantha ssp. micrantha	Small-flower Mat-rush	Y	S, D	N	D	Insect	https://syzygium.xyz/saplants/Asparagaceae/Lomandra/Lomandra_micrantha_ssp._micrantha.html
Lomandra multiflora ssp. dura	Hard Mat-rush	Y	S, D	N		Insect	https://www.greeningaustralia.org.au/wp-content/uploads/2017/11/FACT-SHEET_Lomandra_multiflora.pdf
TWINER/ SCRAMBLERS (combined cover 1 -3%)							
Billardiera cymosa ssp. cymosa	Sweet Apple-berry	Y	S, D, C	N		Insect	Billardiera cymosa — Fleurieu Environment Centre
Cassytha glabella f. dispar	Fine Dodder-laurel	Y	S	N		Insect	https://syzygium.xyz/saplants/Lauraceae/Cassytha/Cassytha_glabella_f._dispar.html
Cassytha pubescens	Downy Dodder-laurel	N	S, D	N		Insect	https://syzygium.xyz/saplants/Lauraceae/Cassytha/Cassytha_pubescens.html
Marianthus bignoniaceus	Orange Bell-climber	N	C			Insect	https://hortflora.rbg.vic.gov.au/taxon/ad9cb876-5340-11e7-b82b-005056b0018f
Thysanotus patersonii	Twining Fringe-lily	N	S	Sm		Insect	https://syzygium.xyz/saplants/Asparagaceae/Thysanotus/Thysanotus_patersonii.html
FERN (cover 0 - 30%)							
Pteridium esculentum ssp. esculentum	Bracken Fern	N	Sp			Wind	https://syzygium.xyz/saplants/Dennstaedtiaceae/Pteridium/Pteridium_esculentum_ssp._esculentum.html

Scientific Name	Common Name	Nursery Availability*	Propagation Method**	Seed Treatment***	Seed Propagation Difficulty****	Pollination	Links to further information
HERBS (combined cover 5 - 10%)							
Arthropodium strictum	Common Vanilla-lily	Y	S, D	Sm, St		Insect	https://aussiegreenthumb.com/chocolate-lily-arthropodium-strictum/
Bossiaea prostrata	Creeping Bossiaea	N	S	HW, Sc		Insect	https://resources.austplants.com.au/plant/bossiaea-prostratacreeping-bossiaea/
Burchardia umbellata	Milkmaids	Y	S	N		Insect	https://resources.austplants.com.au/plant/burchardia-umbellatamilkmaids/
Drosera macrantha ssp. planchonii	Climbing Sundew	N	S, C, D	N		Insect	https://carnivorousplants.org/grow/guides/tuberousDrosera
Gonocarpus tetragynus	Small-leaf Raspwort	Y	S, C	N	D	insect	https://syzygium.xyz/saplants/Haloragaceae/Gonocarpus/Gonocarpus_tetragynus.html
Goodenia blackiana	Native Primrose	N	S, C	So	D	Insect	https://www.picturethisai.com/care/propagate/Goodenia_blackiana.html
Persoonia juniperina	Prickly Geebung	N	S, C		D	Insect	https://syzygium.xyz/saplants/Proteaceae/Persoonia/Persoonia_juniperina.html
Stylidium graminifolium	Grass Trigger-plant	Y	S	Sm		Insect	https://anpsa.org.au/plant_profiles/stylidium-graminifolium/
Tetratheca pilosa	Hairy Pink-bells	Y	C, S	Sm	D	Insect	Search
GRASSES (combined cover 1 - 5%)							
Austrostipa muelleri	Wiry Spear-grass	N	S	N		Wind	https://syzygium.xyz/saplants/Poaceae/Austrostipa/Austrostipa_muelleri.html
Deyeuxia quadriseta	Reed Bent-grass	N	S	N		Wind	https://syzygium.xyz/saplants/Poaceae/Deyeuxia/Deyeuxia_quadriseta.html
Microlaena stipoides var. stipoides	Weeping Rice-grass	Y	S	N		Wind	Microlaena ecology and management | EverGraze More livestock from perennials
Poa clelandii	Cleland's Poa	N	S	N		Wind	<https://friendsofglenthorne.org.au/wp-content/uploads/Native_Grass_Propagation.pdf
Poa crassicaudex	Thick-stem Poa	Y	S	N		Wind	<https://friendsofglenthorne.org.au/wp-content/uploads/Native_Grass_Propagation.pdf

If cells are blank, no information was readily available at the time of writing.

*** Nursery Availability**

N = No

Y = Yes

**** Propagation Method**

C = Cuttings

D = Division

S = Seedlings

Sp = Spores

***Seed Treatment Code	Treatment name	Procedure
CS	Cold Storage	Stored at 3 to 5 degrees Celsius
DS	Dark Storage	Seed stored out of direct sunlight
HW	Hot Water	Water just off the boil poured over the seed and allowed to stand for 8 - 24 hours
N	None	
Sc	Scarify	Mechanical abrasion of seed coat e.g. lightly scratch with sandpaper
Sm	Smoke	Soaking seeds in smoke water
So	Soak	Seed placed in rainwater for 24 hours
St	Stratify	Seed placed in freezer for 2 weeks

******Seed Propagation Difficulty**

D = Difficult