

# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 3: Damp Sands Herb-rich Woodland

#### Description:

A low, grassy or bracken-dominated open woodland to 15 m tall with a large shrub layer and ground layer rich in herbs, grasses, and orchids. Occurs on sandy lunettes with underlying water seepage on moderately fertile, deep sandy or loamy topsoils.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus melliodora</i>	Yellow Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	2	5%	MS
Small Shrub	1	1%	SS
Large Herb	3	5%	LH
Medium Herb	8	15%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	3	10%	LTG
Medium to Small Tufted Graminoid	8	25%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	1	5%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
T	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia montana</i>	Mallee Wattle
SS	<i>Pimelea humilis</i>	Common Rice-flower
LH	<i>Wahlenbergia</i> spp.	Bluebell
MH	<i>Sida corrugata</i>	Variable Sida
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Acaena echinata</i>	Sheep's Burr
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Juncus pallidus</i>	Pale Rush
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
MTG	<i>Dianella longifolia</i>	Pale Flax-lily
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Striped Wallaby-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

# EVC 3: Damp Sands Herb-rich Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

40 % cover

**Logs:**

10 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	African Box-thorn	low	high
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 18: Riparian Forest

#### Description:

A tall forest to 30 m tall along river banks and associated alluvial terraces with occasional occurrences in the heads of gullies leading into creeks and rivers. Soils are fertile alluvium, regularly inundated and permanently moist. Dominated by tall eucalypts, but also has an open to sparse secondary tree layer of wattles and scattered dense patches of shrubs, ferns, grasses and herbs.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
40%	<i>Eucalyptus radiata</i> ssp. <i>radiata</i>	Narrow-leaf Peppermint
	<i>Eucalyptus viminalis</i>	Manna Gum
	<i>Eucalyptus globulus</i> ssp. <i>bicostata</i>	Eurabbie

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	3	15%	T
Medium Shrub	5	20%	MS
Small Shrub	1	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	2	5%	LH
Medium Herb	11	20%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	4	15%	LTG
Large Non-tufted Graminoid	2	5%	LNG
Medium to Small Tufted Graminoid	4	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	4	15%	GF
Tree Fern	1	5%	TRF
Scrambler or Climber	2	5%	SC
Bryophytes/Lichens	na	20%	BL

# EVC 18: Riparian Forest - Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Pomaderris aspera</i>	Hazel Pomaderris
T	<i>Acacia melanoxylon</i>	Blackwood
MS	<i>Prostanthera lasianthos</i>	Victorian Christmas-bush
MS	<i>Olearia lirata</i>	Snowy Daisy-bush
MS	<i>Coprosma quadrifida</i>	Prickly Currant-bush
MS	<i>Cassinia aculeata</i>	Common Cassinia
PS	<i>Acrotriche prostrata</i>	Trailing Ground-berry
LH	<i>Senecio minimus</i>	Shrubby Fireweed
LH	<i>Senecio linearifolius</i>	Fireweed Groundsel
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
MH	<i>Stellaria pungens</i>	Prickly Starwort
MH	<i>Geranium potentilloides</i>	Cinquefoil Cranesbill
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Lobelia pedunculata</i> s.l.	Matted Pratia
SH	<i>Leptinella filicula</i>	Mountain Cotula
LTG	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Lepidosperma elatius</i>	Tall Sword-sedge
LTG	<i>Poa labillardierei</i>	Common Tussock-grass
LNG	<i>Tetrarrhena juncea</i>	Forest Wire-grass
MTG	<i>Dianella tasmanica</i>	Tasman Flax-lily
MTG	<i>Isolepis inundata</i>	Swamp Club-sedge
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
MNG	<i>Poa tenera</i>	Slender Tussock-grass
GF	<i>Polystichum proliferum</i>	Mother Shield-fern
GF	<i>Blechnum nudum</i>	Fishbone Water-fern
GF	<i>Pteridium esculentum</i>	Austral Bracken
GF	<i>Adiantum aethiopicum</i>	Common Maidenhair
SC	<i>Clematis aristata</i>	Mountain Clematis

## Recruitment:

Continuous

## Organic Litter:

50 % cover

## Logs:

30 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Rubus fruticosus</i> spp. agg.	Blackberry	high	high
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Prunella vulgaris</i>	Self-heal	high	high
MH	<i>Centaureum erythraea</i>	Common Centaury	low	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 19: Riparian Shrubland

#### Description:

Medium to tall shrubland to 8 m tall occurring on rocky substrates of major streams and banks and channels of rocky creeks and along perennial streams in gorge tracts. Able to withstand frequent flooding or regenerate rapidly after such disturbance and often forming dense thickets along the stream's edge during long periods without flooding. Emergent trees may be irregularly scattered throughout but tend to be restricted to the banks of the rivers and creeks. Sedges and rushes common to riparian environments dominate the understorey as well as an array of herbs and grasses including many ephemeral species which survive on the bare sands or in rock crevice.

#### Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Acacia dealbata</i>	Silver Wattle

#### Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	4	5%	MS
Small Shrub	1	1%	SS
Large Herb	5	5%	LH
Medium Herb	8	10%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	3	5%	LTG
Large Non-tufted Graminoid	2	1%	LNG
Medium to Small Tufted Graminoid	8	10%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	20%	BL
<b>Total understorey projective foliage cover</b>		<b>70%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Bossiaea foliosa</i>	Leafy Bossiaea
MS	<i>Callistemon sieberi</i>	River Bottlebrush
MS	<i>Acacia verniciflua</i>	Varnish Wattle
SS	<i>Rubus parvifolius</i>	Small-leaf Bramble
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
LH	<i>Persicaria hydropiper</i>	Water Pepper
LH	<i>Persicaria decipiens</i>	Slender Knotweed
MH	<i>Alternanthera denticulata</i> s.l.	Lesser Joyweed
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
MH	<i>Euchiton involucreatus</i> s.l.	Common Cudweed
SH	<i>Hypericum japonicum</i>	Matted St John's Wort
SH	<i>Crassula helmsii</i>	Swamp Crassula
LTG	<i>Juncus usitatus</i>	Billabong Rush
LTG	<i>Carex polyantha</i>	River Sedge
LTG	<i>Carex appressa</i>	Tall Sedge
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Carex gaudichaudiana</i>	Fen Sedge
MTG	<i>Juncus pauciflorus</i>	Loose-flower Rush
MTG	v <i>Lipocarpha microcephala</i>	Button Rush
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MNG	<i>Isachne globosa</i>	Swamp Millet
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
MNG	<i>Cynodon dactylon</i>	Couch
GF	<i>Pteridium esculentum</i>	Austral Bracken
EP	<i>Amyema quandang</i> var. <i>quandang</i>	Grey Mistletoe

# EVC 19: Riparian Shrubland – Victorian Riverina bioregion

## Recruitment:

Continuous

## Organic Litter:

10% Cover

## Logs:

10 m/0.1 ha (note: large log class does not apply)

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Ulex europaeus</i>	Gorse	low	high
MS	<i>Rubus fruticosus</i> spp. agg.	Blackberry	high	high
LH	<i>Hypericum perforatum</i>	St John's Wort	high	high
LH	<i>Verbena bonariensis</i> s.l.	Purple-top Verbena	high	high
LH	<i>Carduus pycnocephalus</i>	Slender Thistle	high	high
LH	<i>Verbascum</i> spp.	Mullein	high	high
LH	<i>Opuntia</i> spp.	Prickly Pear	high	high
MH	<i>Acetosella vulgaris</i>	Sheep Sorrel	high	low
MH	<i>Galium divaricatum</i>	Slender Bedstraw	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Stellaria media</i>	Chickweed	high	low
MH	<i>Ranunculus repens</i>	Creeping Buttercup	high	high
MH	<i>Myosotis discolor</i>	Yellow-and-blue Forget-me-not	high	high
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Trifolium</i> spp.	Clover	high	low
MH	<i>Centaurium</i> spp.	Centaury	low	low
SH	<i>Ludwigia palustris</i>	Marsh Ludwigia	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Agrostis capillaris</i> s.l.	Brown-top Bent	high	high
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MTG	<i>Pentaschistis airoides</i> ssp. <i>airoides</i>	False Hair-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Cyperus eragrostis</i>	Drain Flat-sedge	high	high
MNG	<i>Paspalum distichum</i>	Water Couch	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 20: Heathy Dry Forest

#### Description:

Open eucalypt forest to 20 m tall. Grows on shallow, rocky skeletal soils on a variety of geologies and on a range of landforms from gently undulating hills to exposed aspects on ridge tops and steep slopes at a range of elevations. The understorey is dominated by a low, sparse to dense layer of ericoid-leaved shrubs including heaths and peas. Graminoids and grasses are frequently present in the ground layer, but do not provide much cover.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	60 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus macrorhyncha</i>	Red Stringybark
	<i>Eucalyptus polyanthemus</i>	Red Box
	<i>Eucalyptus goniacalyx</i> s.s.	Bundy

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	6	20%	MS
Small Shrub	6	20%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	7	15%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	2	15%	LTG
Medium to Small Tufted Graminoid	6	15%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

# EVC 20: Heathy Dry Forest - Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Grevillea alpina</i>	Cat's Claw Grevillea
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Persoonia rigida</i>	Hairy Geebung
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Melichrus urceolatus</i>	Urn Heath
SS	<i>Hovea heterophylla</i>	Common Hovea
SS	<i>Dillwynia phyllicoides</i>	Small-leaf Parrot-pea
PS	<i>Platylobium formosum</i>	Handsome Flat-pea
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Helichrysum scorpioides</i>	Button Everlasting
MH	<i>Microseris scapigera</i> spp. agg.	Yam Daisy
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Joycea pallida</i>	Silvertop Wallaby-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Stylidium graminifolium</i> s.l.	Grass Trigger-plant
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea

## Recruitment:

Episodic/Fire. Desirable period between disturbances is 20 years.

## Organic Litter:

20 % cover

## Logs:

20 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 21: Shrubby Dry Forest

#### Description:

Occurs on a range of geologies on exposed aspects such as ridge-lines and medium to steep upper slopes, often in high rainfall areas and on shallow infertile soils. The overstorey is an open forest to 25 m tall characterised by the diversity and variability of the eucalypts. The understorey often lacks a secondary tree layer but contains a well-developed medium to low shrub layer. The ground layer is often very sparse with tussock-forming graminoids being the dominant life form.

#### Large trees:

Species	DBH(cm)	# / ha
<i>Eucalyptus</i> spp.	70 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus dives</i>	Broad-leaved Peppermint
	<i>Eucalyptus mannifera</i> ssp. <i>mannifera</i>	Brittle Gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	8	15%	MS
Small Shrub	3	5%	SS
Prostrate Shrub	2	5%	PS
Large Herb	2	1%	LH
Medium Herb	7	5%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	1	1%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	6	10%	MTG
Ground Fern	2	5%	GF
Scrambler or Climber	2	1%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>65%</b>	

# EVC 21: Shrubby Dry Forest - Victoria Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Cassinia aculeata</i>	Common Cassinia
MS	<i>Daviesia latifolia</i>	Hop Bitter-pea
MS	<i>Daviesia ulicifolia</i>	Gorse Bitter-pea
MS	<i>Pultenaea juniperina</i> s.l.	Prickly Bush-pea
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Tetratheca ciliata</i>	Pink-bells
SS	<i>Hovea heterophylla</i>	Common Hovea
SS	<i>Olearia erubescens</i>	Moth Daisy-bush
PS	<i>Persoonia chamaepeuce</i>	Dwarf Geebung
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio linearifolius</i>	Fireweed Groundsel
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Viola hederacea</i> sensu Willis (1972)	Ivy-leaf Violet
MH	<i>Stellaria pungens</i>	Prickly Starwort
MH	<i>Asperula scoparia</i>	Prickly Woodruff
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
MTG	<i>Joycea pallida</i>	Silvertop Wallaby-grass
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MTG	<i>Dianella tasmanica</i>	Tasman Flax-lily
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea
SC	<i>Clematis aristata</i>	Mountain Clematis

## Recruitment:

Episodic/Fire. Desirable period between disturbances is 20 years.

## Organic Litter:

20 % cover

## Logs:

20 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 22: Grassy Dry Forest

#### Description:

Occurs on a variety of gradients and altitudes and on a range of geologies. The overstorey is dominated by a low to medium height forest of eucalypts to 20 m tall, sometimes resembling an open woodland with a secondary, smaller tree layer including a number of Acacia species. The understorey usually consists of a sparse shrub layer of medium height. Grassy Dry Forest is characterised by a ground layer dominated by a high diversity of drought-tolerant grasses and herbs, often including some fern species.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	60 cm	20 / ha
<i>Callitris</i> spp.	40 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus goniacalyx</i> s.l.	Bundy
	<i>Eucalyptus macrorhyncha</i>	Red Stringybark
	<i>Eucalyptus polyanthemus</i>	Red Box
	<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
	<i>Callitris endlicheri</i>	Black Cypress-pine

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	5%	T
Medium Shrub	5	10%	MS
Small Shrub	4	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	1%	LH
Medium Herb	5	15%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	8	25%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Ground Fern	2	1%	GF
Scrambler or Climber	1	1%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>80%</b>	

# EVC 22: Grassy Dry Forest - Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
T	<i>Acacia implexa</i>	Lightwood
MS	<i>Acacia dealbata</i>	Silver Wattle
MS	<i>Acacia verniciflua</i>	Varnish Wattle
MS	<i>Cassinia longifolia</i>	Shiny Cassinia
MS	<i>Cassinia aculeata</i>	Common Cassinia
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Hovea heterophylla</i>	Common Hovea
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Hypericum gramineum</i>	Small St John's Wort
MH	<i>Geranium solanderi</i> s.l.	Austral Cranesbill
MH	<i>Euchiton collinus</i> s.l.	Clustered/Creeping Cudweed
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
MTG	<i>Joycea pallida</i>	Silvertop Wallaby-grass
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea

## Recruitment:

Continuous

## Organic Litter:

20 % cover

## Logs:

20 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Hypericum perforatum</i>	St John's Wort	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	low	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Centaurea erythraea</i>	Common Centaury	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	high	high
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 23: Herb-rich Foothill Forest

#### Description:

A medium to tall open forest to 30 m tall with a small tree layer over a sparse to dense shrub layer. Occurs on relatively fertile, moderately well-drained soils on an extremely wide range of geological types and in areas of moderate to high rainfall. Occupies easterly and southerly aspects mainly on lower slopes and in gullies. The understorey contains a high cover and diversity of herbs and grasses in the ground layer, which characterises this EVC.

#### Large trees:

Species	DBH(cm)	# / ha
<i>Eucalyptus</i> spp.	70 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
40%	<i>Eucalyptus dives</i>	Broad-leaved Peppermint
	<i>Eucalyptus radiata</i> s.l.	Narrow-leaf Peppermint
	<i>Eucalyptus obliqua</i>	Messmate Stringybark
	<i>Eucalyptus globulus</i> ssp. <i>bicostata</i>	Eurabbie
	<i>Eucalyptus mannifera</i> ssp. <i>mannifera</i>	Brittle Gum
	<i>Eucalyptus rubida</i>	Candlebark

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	3	10%	MS
Small Shrub	3	5%	SS
Prostrate Shrub	2	5%	PS
Large Herb	3	5%	LH
Medium Herb	13	25%	MH
Small or Prostrate Herb	4	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	6	20%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Ground Fern	1	5%	GF
Scrambler or Climber	2	1%	SC
Bryophytes/Lichens	na	20%	BL

# EVC 23: Herb-rich Foothill Forest – Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
MS	<i>Daviesia latifolia</i>	Hop Bitter-pea
MS	<i>Pimelea linifolia</i> ssp. <i>linifolia</i>	Slender Rice-flower
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Hovea heterophylla</i>	Common Hovea
SS	<i>Tetralochea ciliata</i>	Pink-bells
SS	<i>Olearia erubescens</i>	Moth Daisy-bush
PS	<i>Acrotriche serrulata</i>	Honey-pots
PS	<i>Acrotriche prostrata</i>	Trailing Ground-berry
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Pterostylis longifolia</i> s.l.	Tall Greenhood
MH	<i>Poranthera microphylla</i>	Small Poranthera
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall Sundew
MH	<i>Stackhousia monogyna</i>	Creamy Stackhousia
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Cymbonotus preissianus</i>	Austral Bear's-ear
LTG	<i>Lomandra longifolia</i> ssp. <i>exilis</i>	Cluster-headed Mat-rush
MTG	<i>Luzula meridionalis</i> var. <i>flaccida</i>	Common Woodrush
MTG	<i>Poa sieberiana</i> var. <i>sieberiana</i>	Grey Tussock-grass
MTG	<i>Lomandra multiflora</i> ssp. <i>multiflora</i>	Many-flowered Mat-rush
MTG	<i>Stylidium graminifolium</i> s.l.	Grass Trigger-plant
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Glycine clandestina</i>	Twining Glycine
SC	<i>Clematis aristata</i>	Mountain Clematis

## Recruitment:

Continuous

## Organic Litter:

40 % cover

## Logs:

20 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Centaurea erythraea</i>	Common Centaury	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 28: Rocky Outcrop Shrubland

#### Description:

Occurs in areas of low site quality on exposed rocky outcrops where rock is a dominant landform feature, soils are shallow or virtually absent and effective rainfall is low. Scattered, often stunted trees are occasionally present. A diverse shrub layer to 5 m tall characterises this EVC, including a number of rock-adapted species. The ground layer is usually sparse and species-poor except where it occurs in discrete patches and forms a mosaic with Rocky Outcrop Herbland.

#### Life forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	5	25%	MS
Small Shrub	2	5%	SS
Large Herb	2	5%	LH
Medium Herb	5	5%	MH
Small or Prostrate Herb	1	1%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	4	10%	MTG
Ground Fern	2	5%	GF
Bryophytes/Lichens	na	20%	BL
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>75%</b>	

LF Code	Character Species	Common Name
MS	<i>Monotoca scoparia</i>	Prickly Broom-heath
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Dillwynia phyllicoides</i>	Small-leaf Parrot-pea
SS	<i>Rhytidisporum procumbens</i>	White Marianth
SS	<i>Acacia gunnii</i>	Ploughshare Wattle
PS	<i>Platylobium formosum</i>	Handsome Flat-pea
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Derwentia perfoliata</i>	Digger's Speedwell
LH	<i>Wahlenbergia multicaulis</i>	Branching Bluebell
LH	<i>Chrysocephalum semipapposum</i>	Clustered Everlasting
MH	<i>Stellaria pungens</i>	Prickly Starwort
MH	<i>Helichrysum scorpioides</i>	Button Everlasting
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Diuris sulphurea</i>	Tiger Orchid
SH	<i>Crassula sieberiana</i>	Sieber Crassula
LTG	<i>Lomandra longifolia</i>	Shiny-headed Mat-rush
LTG	<i>Austrodanthonia induta</i>	Shiny Wallaby-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Joycea pallida</i>	Silver-top Wallaby-grass
MTG	<i>Lepidosperma laterale</i>	Variable Sword-sedge
GF	<i>Cheilanthes sieberi</i> ssp. <i>sieberi</i>	Narrow Rock-fern
GF	<i>Asplenium flabellifolium</i>	Necklace Fern

#### Recruitment:

Continuous

#### Organic Litter:

40 % cover

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low

# EVC 28: Rocky Outcrop Shrubland - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 47: Valley Grassy Forest

#### Description:

Valley Grassy Forest occurs on fertile well-drained colluvial or alluvial soils on gently undulating lower slopes and valley floors. The tall, open overstorey to 20 m tall may carry a variety of eucalypts, usually species which prefer more moist or more fertile conditions over a sparse shrub cover. In season, a rich array of herbs, lilies, grasses and sedges dominate the ground layer but at the drier end of the spectrum the ground layer may be sparse and slightly less diverse, but with the moisture-loving species still remaining.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus blakelyi</i>	Blakely's Red-gum
	<i>Eucalyptus macrorhyncha</i>	Red Stringybark
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus albens</i>	White Box
	<i>Eucalyptus rubida</i>	Candlebark
	<i>Eucalyptus bridgesiana</i> s.l.	But But
	<i>Eucalyptus polyanthemus</i>	Red Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	3	10%	T
Medium Shrub	3	10%	MS
Small Shrub	3	5%	SS
Large Herb	1	1%	LH
Medium Herb	9	20%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	12	25%	MTG
Medium to Tiny Non-tufted Graminoid	1	5%	MNG
Bryophytes/Lichens	na	20%	BL

# EVC 47: Valley Grassy Forest - Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
T	<i>Acacia melanoxylon</i>	Blackwood
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Cassinia aculeata</i>	Dogwood
MS	<i>Dodonaea viscosa</i> ssp. <i>angustissima</i>	Narrow-leaf Hop-bush
MS	<i>Indigofera australis</i>	Austral Indigo
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Platylobium formosum</i>	Handsome Flat-pea
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Hypericum gramineum</i>	Small St John's Wort
MH	<i>Geranium solanderi</i> s.l.	Austral Cranesbill
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Desmodium varians</i>	Slender Tick-trfoil
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Arthropodium strictum</i> s.l.	Chocolate Lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea
SC	<i>Glycine clandestina</i>	Twining Glycine

**Recruitment:**  
Continuous

**Organic Litter:**  
20 % cover

**Logs:**  
20 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Hypericum perforatum</i>	St John's Wort	high	high
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 55\_61: Plains Grassy Woodland

#### Description:

An open, eucalypt woodland to 15 m tall. Occupies well drained, fertile soils on flat or gently undulating plains at low elevations in areas with >600 mm annual rainfall. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer characterised by summer-growing grasses.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	10 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus camaldulensis</i>	River Red Gum
	<i>Eucalyptus melliodora</i>	Yellow Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	10%	MS
Small Shrub	2	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	8	15%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	12	45%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Bursaria spinosa</i>	Sweet Bursaria
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Chrysocephalum apiculatum</i> s.l.	Common Everlasting
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Eryngium ovinum</i>	Blue Devil
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Austrostipa</i> spp.	Spear-grass
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Striped Wallaby-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

# EVC 55\_61: Plains Grassy Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

10 % cover

**Logs:**

10 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	African Box-thorn	high	high
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 55\_62: *Riverina* Plains Grassy Woodland (*syn.* Plains Woodland)

#### Description:

An open, eucalypt woodland to 15 m tall occurring on a number of geologies and soil types. Occupies fertile clays and clay loam soils on flat or gently undulating plains at low elevations in areas with <600 mm annual rainfall. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer and chenopods are often present.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha
<i>Eucalyptus largiflorens</i>	50 cm	
<i>Allocasuarina</i> spp.	40 cm	

#### Tree Canopy Cover:

%cover	Species typical of at least part of EVC range	Common Name
15%	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus camaldulensis</i>	River Red Gum
	<i>Eucalyptus largiflorens</i>	Black Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Allocasuarina luehmannii</i>	Buloke

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	5%	MS
Small Shrub	1	1%	SS
Large Herb	1	5%	LH
Medium Herb	11	25%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	15	45%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia montana</i>	Mallee Wattle
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Pittosporum angustifolium</i>	Weeping Pittosporum
SS	<i>Pimelea curviflora</i> s.l.	Curved Rice-flower
MH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Einadia hastata</i>	Saloop
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
MH	<i>Vittadinia gracilis</i>	Woolly New Holland Daisy
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Chloris truncata</i>	Windmill Grass

# EVC 55\_62: *Riverina* Plains Grassy Woodland (*syn.* Plains Woodland) - Victorian Riverina bioregion

## Recruitment:

Continuous

## Organic Litter:

10 % cover

## Logs:

10 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Arctotheca calendula</i>	Cape Weed	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Trifolium dubium</i>	Suckling Clover	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MNG	<i>Romulea rosea</i>	Onion Grass	high	low
MNG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 56: Floodplain Riparian Woodland

#### Description:

An open eucalypt woodland or open forest to 20 m tall over a medium to tall shrub layer with a ground layer consisting of amphibious and aquatic herbs and sedges. Occurs along the banks and floodplains of the larger meandering rivers and major creeks, often in conjunction with one or more floodplain wetland communities. Elevation and rainfall are relatively low and soils are fertile alluviums subject to periodic flooding and inundation.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus melliodora</i>	Yellow Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	2	5%	MS
Small Shrub	1	1%	SS
Medium Herb	4	10%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	35%	MTG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
Bryophytes/Lichens	na	10%	BL
<b>Total understorey projective foliage cover</b>		<b>90%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
MS	<i>Hymenanthera dentata</i> s.l.	Tree Violet
MH	<i>Sida corrugata</i>	Variable Sida
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Persicaria decipiens</i>	Slender Knotweed
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Azolla filiculoides</i>	Pacific Azolla
LTG	<i>Carex appressa</i>	Tall Sedge
LNG	<i>Phragmites australis</i>	Common Reed
LNG	<i>Eleocharis sphacelata</i>	Tall Spike-sedge
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Chloris truncata</i>	Windmill Grass
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Aristida behriana</i>	Brush Wire-grass
MNG	<i>Pseudoraphis spinescens</i>	Spiny Mud-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

# EVC 56: Floodplain Riparian Woodland - Victorian Riverina bioregion

**Recruitment:**

Episodic/Flood - Desirable period between disturbances is 10 years.

**Organic Litter:**

40 % cover

**Logs:**

30 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 61: Box Ironbark Forest

#### Description:

Occurs on gently undulating rises, low hills and penneplains on infertile, often stony soils derived from a range of geologies. The open overstorey to 20 m tall consists of a variety of eucalypts, often including one of the Ironbark species. The mid storey often forms a dense to open small tree or shrub layer over an open ground layer ranging from a sparse to well-developed suite of herbs and grasses.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus polyanthemos</i>	Red Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Eucalyptus tricarpa</i>	Red Ironbark
	<i>Eucalyptus sideroxylon</i> s.s.	Mugga

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	5	20%	MS
Small Shrub	3	5%	SS
Large Herb	2	5%	LH
Medium Herb	5	10%	MH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	5	15%	MTG
Scrambler or Climber	1	1%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C
<b>Total understorey projective foliage cover</b>		<b>75%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Daviesia ulicifolia</i>	Gorse Bitter-pea
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
MS	<i>Ozothamnus obcordatus</i>	Grey Everlasting
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
SS	<i>Melichrus urceolatus</i>	Urn Heath
SS	<i>Pultenaea largiflorens</i>	Twiggy Bush-pea
SS	<i>Pultenaea prostrata</i>	Silky Bush-pea
SS	<i>Hovea heterophylla</i>	Common Hovea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Goodenia hederacea</i>	Ivy Goodenia
MH	<i>Leptorhynchus squamatus</i>	Scaly Buttons
MH	<i>Pterostylis nana</i>	Dwarf Greenhood
SH	<i>Kennedia prostrata</i>	Running Postman
MTG	<i>Joycea pallida</i>	Silvertop Wallaby-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea

# EVC 61: Box Ironbark Forest - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20 % cover

**Logs:**

20 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
LNG	<i>Avena</i> spp.	Oat	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 66: Low Rises Woodland

#### Description:

Eucalypt woodland to 15 m tall on elevated plains and low rises with a diverse shrub understorey and grassy field layer. Occurs in a range of environmental settings that have resulted in well-drained surface soils mantling clay sub-soils.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	60 cm	20/ha
<i>Allocasuarina</i> spp.	40 cm	
<i>Callitris</i> spp.	40 cm	

#### Tree Canopy Cover:

% cover	Character Species	Common Name
20%	<i>Eucalyptus melliodora</i>	Yellow Gum
	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine
	<i>Callitris glaucophylla</i>	White Cypress-pine
	<i>Allocasuarina luehmannii</i>	Buloke

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	5%	T
Medium Shrub	5	15%	MS
Small Shrub	3	5%	SS
Large Herb	1	1%	LH
Medium Herb	3	5%	MH
Small or Prostrate Herb	2	1%	SH
Medium to Small Tufted Graminoid	7	25%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>70%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Pittosporum angustifolium</i>	Weeping Pittosporum
T	<i>Myoporum platycarpum</i>	Sugarwood
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Hakea tephrosperma</i>	Needlewood
MS	<i>Bursaria spinosa</i>	Sweet Bursaria
MS	<i>Acacia oswaldii</i>	Umbrella Wattle
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
SS	<i>Olearia pimeleoides</i>	Pimelea Daisy-bush
MH	<i>Vittadinia cuneata</i>	Fuzzy New Holland Daisy
SH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
SH	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
SH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Sida corrugata</i>	Variable Sida
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Enteropogon acicularis</i>	Windmill Grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MNG	<i>Austrostipa elegantissima</i>	Feather Spear-grass
SC	<i>Clematis microphylla</i>	Small-leaved Clematis

# EVC 66: Low Rises Woodland – Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

15% cover

**Logs:**

20m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Olea europaea</i>	Olive	high	high
MS	<i>Lycium ferocissimum</i>	Boxthorn	high	high
LH	<i>Centaurium tenuiflorum</i>	Slender Centaury	high	low
LH	<i>Gazania linearis</i>	Gazania	high	high
LH	<i>Opuntia robusta</i>	Wheel Cactus	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Ehrharta calycina</i>	Perennial Veldt Grass	high	high
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	high
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	high
TTG	<i>Poa bulbosa</i>	Bulbous Meadow-grass	high	high
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 67: Alluvial Terraces Herb-rich Woodland

#### Description:

Open woodland to 15 m tall on broad alluvial plains and along ephemeral drainage lines. Soils are generally poorly drained duplex soils with sandy loam overlying a heavier clay subsoil. Understorey consists of few, if any shrubs with the striking feature of this EVC being the high species-richness of the ground-layer and the low biomass of this cover, particularly in summer.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	10 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus albens</i>	White Box
	<i>Eucalyptus goniocalyx</i> s.s.	Bundy

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	5	5%	MS
Small Shrub	2	5%	SS
Large Herb	2	5%	LH
Medium Herb	11	20%	MH
Small or Prostrate Herb*	3	5%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	15	30%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

\* Largely seasonal life form

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
MS	<i>Acacia verniciflua</i>	Varnish Wattle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Pultenaea humilis</i>	Dwarf Bush-pea
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Lagenophora huegelii</i>	Coarse Bottle-daisy
MH	<i>Wurmbea dioica</i>	Common Early Nancy
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Juncus flavidus</i>	Gold Rush
MTG	<i>Juncus subsecundus</i>	Finger Rush
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass



# EVC 67: Alluvial Terraces Herb-rich Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

10 % cover

**Logs:**

15 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
Und	<i>Trifolium</i> spp.	Clover	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 68: Creekline Grassy Woodland

#### Description:

Eucalypt-dominated woodland to 15 m tall with occasional scattered shrub layer over a mostly grassy/sedgy to herbaceous ground-layer. Occurs on low-gradient ephemeral to intermittent drainage lines, typically on fertile colluvial/alluvial soils, on a wide range of suitably fertile geological substrates. These minor drainage lines can include a range of graminoid and herbaceous species tolerant of waterlogged soils, and are presumed to have sometimes resembled a linear wetland or system of interconnected small ponds.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	4	10%	MS
Small Shrub	3	5%	SS
Large Herb	2	5%	LH
Medium Herb	9	15%	MH
Small Herb*	3	5%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	16	35%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Bryophytes/Lichens	na	10%	BL

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

T	<i>Acacia dealbata</i>	Silver Wattle
T	<i>Acacia melanoxylon</i>	Blackwood
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Melaleuca parvistaminea</i>	Rough-barked Honey-myrtle
MS	<i>Acacia retinodes</i> var. <i>retinodes</i>	Wilrilda
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio quadridentatus</i>	Cottony Fireweed
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
MH	<i>Hypericum gramineum</i>	Small St John's Wort
SH	<i>Dichondra repens</i>	Kidneyweed
LTG	<i>Carex appressa</i>	Tall Sedge
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Juncus</i> spp.	Rush
MTG	<i>Cyperus</i> spp.	Flat-sedge
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

# EVC 68: Creekline Grassy Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

40 % cover

**Logs:**

30 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Galium murale</i>	Small Goosegrass	high	low
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
LTG	<i>Juncus acutus</i>	Spiny Rush	high	high
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Bromus madritensis</i>	Madrid Brome	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 72: Granitic Hills Woodland

#### Description:

Mainly restricted to granite rocky outcrops and structurally consists of a low woodland to 10 m high with the dominant trees often being stunted.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	50 cm	15 / ha
<i>Callitris</i> spp.	30 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus blakelyi</i>	Blakely's Red-gum
	<i>Eucalyptus macrorhyncha</i>	Red Stringybark
	<i>Callitris endlicheri</i>	Black Cypress-pine
	<i>Callitris glaucophylla</i>	White Cypress-pine
	<i>Eucalyptus goniacalyx s.l.</i>	Bundy

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	7	20%	MS
Small Shrub	3	5%	SS
Large Herb	4	5%	LH
Medium Herb	11	15%	MH
Small or Prostrate Herb	2	1%	SH
Medium to Small Tufted Graminoid	6	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	1%	MNG
Ground Fern	2	1%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>65%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Persoonia rigida</i>	Hairy Geebung
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Acacia verniciflua</i>	Varnish Wattle
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Pultenaea procumbens</i>	Heathy Bush-pea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Stypandra glauca</i>	Nodding Blue-lily
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Gonocarpus elatus</i>	Tall Raspwort
MH	<i>Geranium solanderi s.l.</i>	Austral Cranesbill
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
MTG	<i>Lepidosperma laterale</i>	Variable Sword-sedge
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Dianella revoluta s.l.</i>	Black-anther Flax-lily
MNG	<i>Microlaena stipoides var. stipoides</i>	Weeping Grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Glycine clandestina</i>	Twining Glycine

# EVC 72: Granitic Hills Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20 % cover

**Logs:**

15 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Cerastium glomeratum s.l.</i>	Common Mouse-ear Chickweed	high	low
MH	<i>Galium murale</i>	Small Goosegrass	high	low
MH	<i>Galium divaricatum</i>	Slender Bedstraw	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Centaureum spp.</i>	Centaury	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 80: Spring Soak Woodland

#### Description:

Woodland to 10 m tall with an understorey dominated by medium and small herbs and occasional shrubs. Generally occurring on granitic-outwash soils and dependent on the continual availability of a reliable water supply.

#### Large trees:

Species	DBH(cm)	# / ha
<i>Eucalyptus</i> spp.	50 cm	5 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus blakelyi</i>	Blakely's Red-gum
	<i>Eucalyptus bridgesiana</i> s.s.	But But

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	5%	MS
Large Herb	2	1%	LH
Medium Herb	6	10%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	3	5%	LNG
Medium to Small Tufted Graminoid	9	35%	MTG
Medium to Tiny Non-tufted Graminoid	1	5%	MNG
Bryophytes/Lichens	na	20%	BL

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia dealbata</i>	Silver Wattle
MS	<i>Mirbelia oxylobioides</i>	Mountain Mirbelia
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
LH	<i>Senecio minimus</i>	Shrubby Fireweed
MH	<i>Ranunculus sessiliflorus</i> var. <i>sessiliflorus</i>	Annual Buttercup
SH	<i>Hydrocotyle hirta</i>	Hairy Pennywort
SH	<i>Hypericum japonicum</i>	Matted St John's Wort
SH	<i>Gonocarpus micranthus</i> ssp. <i>micranthus</i>	Creeping Raspwort
LTG	<i>Juncus sarophorus</i>	Broom Rush
LTG	<i>Carex appressa</i>	Tall Sedge
LNG	<i>Baumea rubiginosa</i> s.s.	Soft Twig-sedge
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Juncus fockei</i>	Slender Joint-leaf Rush
MTG	<i>Poa labillardierei</i> var. <i>labillardierei</i>	Common Tussock-grass
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Luzula meridionalis</i> var. <i>flaccida</i>	Common Woodrush
MNG	<i>Eleocharis gracilis</i>	Slender Spike-sedge

# EVC 80: Spring Soak Woodland – Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20 % cover

**Logs:**

5 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus aspers</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Hypericum perforatum</i>	St John's Wort	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Centaureum</i> spp.	Centaury	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 82: Riverine Escarpment Scrub

#### Description:

Shrubland to 10 m tall with occasional emergent eucalypts. Occurs on shallow colluvial soils along rocky cliffs and slopes associated with rivers and creeks and may extend onto alluvial terraces. Characterised by a dense medium to tall shrub layer over a ground layer which can range from low to high diversity and consist of a variety of graminoids and herbs. Ferns can often be a major component of the ground stratum.

#### Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Acacia melanoxylon</i>	Blackwood
	<i>Pomaderris aspera</i>	Hazel Pomaderris
	<i>Acacia dealbata</i>	Silver Wattle

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Shrub		5%	IT
Medium Shrub	8	30%	MS
Small Shrub	2	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	2	5%	LH
Medium Herb	12	20%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	4	15%	LTG
Medium to Small Tufted Graminoid	3	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	3	10%	GF
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens	na	10%	BL

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

MS	<i>Coprosma quadrifida</i>	Prickly Currant-bush
MS	<i>Lomatia myricoides</i>	River Lomatia
MS	<i>Leptospermum brevipes</i>	Slender Tea-tree
MS	<i>Kunzea ericoides</i>	Burgan
SS	<i>Leucopogon hookeri</i>	Mountain Beard-heath
SS	<i>Platylobium formosum</i>	Handsome Flat-pea
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Epilobium billardierianum</i> ssp. <i>hydrophilum</i>	Robust Willow-herb
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Ajuga australis</i>	Austral Bugle
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
MH	<i>Lagenophora stipitata</i>	Common Bottle-daisy
MH	<i>Viola hederacea</i> sensu Willis (1972)	Ivy-leaf Violet
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Cyperus lucidus</i>	Leafy Flat-sedge
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
LTG	<i>Poa labillardierei</i> var. <i>labillardierei</i>	Common Tussock-grass
MTG	<i>Poa sieberiana</i> var. <i>sieberiana</i>	Grey Tussock-grass
MTG	<i>Dianella tasmanica</i>	Tasman Flax-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken
GF	<i>Polystichum proliferum</i>	Mother Shield-fern
GF	<i>Adiantum aethiopicum</i>	Common Maidenhair
GF	<i>Blechnum nudum</i>	Fishbone Water-fern

# EVC 82: Riverine Escarpment Scrub - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

40 % cover

**Logs:**

5 m/0.1 ha. (note: large log class does not apply)

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Rosa rubiginosa</i>	Sweet Briar	high	high
MS	<i>Rubus</i> sp. aff. <i>armeniacus</i>	Blackberry	high	high
MS	<i>Rubus fruticosus</i> spp. agg.	Blackberry	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Centaureum erythraea</i>	Common Centaury	high	low
MH	<i>Prunella vulgaris</i>	Self-heal	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 93: Sandstone Ridge Shrubland (*syn.* Broombush Mallee)

#### Description:

Low open mallee to 3 m tall typically with a tall shrubby understorey, or shrubland with scattered emergent mallees. A good field character for this EVC is the dominance or co-dominance of the tall shrub *Melaleuca uncinata* in shrubland or as an understorey shrub in Mallee vegetation. Confined to the crests of outcropping Parilla sandstone ridges and also where these ridges are at least partially obscured by a shallow mantle of Lowan sand.

+ mallee only component (ignore when assessing shrubland areas and standardise final score as appropriate)

#### Tree Canopy Cover<sup>+</sup>:

%cover	Character Species	Common Name
30%	<i>Eucalyptus viridis</i>	Green Mallee
	<i>Eucalyptus behriana</i>	Bull Mallee

#### Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	9	30%	MS
Small Shrub	5	10%	SS
Prostrate Shrub	1	1%	PS
Large Herb	1	1%	LH
Medium Herb	6	15%	MH
Medium to Small Tufted Graminoid	3	5%	MTG
Bryophytes/Lichens	na	20%	BL
Soil Crust	na	20%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Melaleuca uncinata</i>	Broombush
MS	<i>Ozothamnus obcordatus</i>	Grey Everlasting
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	<i>Pultenaea largiflorens</i>	Twiggy Bush-pea
SS	<i>Pultenaea prostrata</i>	Silky Bush-pea
SS	<i>Hibbertia exutiacies</i>	Spiky Guinea-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass

#### Recruitment:

Episodic/Fire. Desirable period between disturbances is 30 years.

#### Organic Litter:

20 % cover

#### Logs<sup>+</sup>:

5 m/0.1 ha. (note: large log class does not apply)

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low



# EVC 93: Sandstone Ridge Shrubland (*syn.* Broombush Mallee) – Victorian Riverina bioregion

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## EVC/Bioregion Benchmark for Vegetation Quality Assessment

### Victorian Riverina Bioregion

#### EVC 93\_61: Treed Sandstone Ridge Shrubland

##### Description:

Low open mallee to 3 m tall typically with a tall shrubby understorey, or shrubland with scattered emergent mallees. A good field character for this EVC is the dominance or co-dominance of the tall shrub *Melaleuca uncinata* in shrubland or as an understorey shrub in Mallee vegetation. Confined to the crests of outcropping Parilla sandstone ridges and also where these ridges are at least partially obscured by a shallow mantle of Lowan sand.

##### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus behriana</i>	Bull Mallee
	<i>Eucalyptus viridis</i>	Green Mallee

##### Understorey:

Lifeform	#Spp	%Cover	LF Code
Medium Shrub	9	30%	MS
Small Shrub	5	10%	SS
Prostrate Shrub	1	1%	PS
Large Herb	1	1%	LH
Medium Herb	6	15%	MH
Medium to Small Tufted Graminoid	3	5%	MTG
Bryophytes/Lichens		20%	BL
Soil Crust		20%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
MS	<i>Melaleuca uncinata</i>	Broombush
MS	<i>Ozothamnus obcordatus</i>	Grey Everlasting
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	<i>Hibbertia exutiacies</i>	Spiky Guinea-flower
SS	<i>Pultenaea largiflorens</i>	Twiggy Bush-pea
SS	<i>Pultenaea prostrata</i>	Silky Bush-pea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i> s.l.	Slender Fireweed
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily

##### Recruitment:

Episodic/Fire. Desirable period between disturbances is 30 years.

##### Organic Litter:

20 % cover

# EVC 93\_61: Treed Sandstone Ridge Shrubland

**Logs:**

5 m/0.1ha. (note: large log class does not apply).

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low

# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 96: Ridged Plains Mallee

#### Description:

Open, quite grassy mallee woodland to 10 m tall, typical of the gently undulating "plains" of the Wimmera and Southern Mallee. Soils are somewhat variable but are typically duplex with grey or brown sandy clay loam or clay loam topsoils of aeolian origin.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	30 cm	15/ha
<i>Allocasuarina luehmannii</i>	40 cm	

#### Tree Canopy Cover:

% cover	Character Species	Common Name
10%	<i>Eucalyptus dumosa</i>	Dumosa Mallee
	<i>Eucalyptus behriana</i>	Bull Mallee
	<i>Allocasuarina luehmannii</i>	Buloke

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	3	5%	MS
Small Shrub	3	10%	SS
Prostrate Shrub	1	1%	PS
Large Herb	2	5%	LH
Medium Herb*	5	10%	MH
Small or Prostrate Herb*	5	15%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	3	20%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

\* Largely seasonal lifeform

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia melvillei</i>	Myall
MS	<i>Acacia oswaldii</i>	Umbrella Wattle
MS	<i>Eremophila longifolia</i>	Berrigan
SS	<i>Maireana brevifolia</i>	Short-leaf Bluebush
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
SS	<i>Rhagodia spinescens</i>	Hedge Saltbush
PS	<i>Atriplex semibaccata</i>	Berry Saltbush
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Maireana excavata</i>	Bottle Bluebush
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
SH	<i>Chenopodium desertorum</i>	Frosted Goosefoot
SH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Brachyscome lineariloba</i>	Hard-head Daisy
SH	<i>Hyalosperma</i> spp.	Sunray
LTG	<i>Austrostipa aristiglumis</i>	Plains Grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
LNG	<i>Austrostipa platychaeta</i>	Flat-awned Spear-grass
MNG	<i>Austrostipa elegantissima</i>	Feather Spear-grass

# EVC 96: Ridged Plains Mallee – Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

5% cover

**Logs:**

5m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MTG	<i>Critesion murinum</i>	Barley-grass	high	low
MTG	<i>Bromus diandrus</i>	Great Brome	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	high
MH	<i>Marrubium vulgare</i>	Horehound	high	high
MNG	<i>Vulpia</i> spp.	Fescue	high	low
MS	<i>Lycium ferocissimum</i>	Boxthorn	low	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 97: Semi-arid Woodland

#### Description:

Non-eucalypt woodland or open forest to 12 m tall, of low rainfall areas. Occurs in a range of somewhat elevated positions not subject to flooding or inundation. The surface soils are typically light textured loamy sands or sandy loams.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Allocasuarina</i> spp.	40 cm	20 / ha
<i>Callitris</i> spp.	40 cm	
<i>Myoporum platycarpum</i>	35 cm	

#### Tree Canopy Cover:

% cover	Character Species	Common Name
20%	<i>Allocasuarina luehmannii</i>	Buloke
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine
	<i>Myoporum platycarpum</i>	Sugarwood

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	5	15%	MS
Small Shrub	5	20%	SS
Large Herb*	2	5%	LH
Medium Herb*	7	5%	MH
Small or Prostrate Herb*	2	5%	SH
Medium to Small Tufted Graminoid	2	10%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

\* Largely seasonal life form

**Total understorey projective foliage cover**

**75%**

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Alectryon oleifolius</i> ssp. <i>canescens</i>	Cattle Bush
MS	<i>Acacia oswaldii</i>	Umbrella Wattle
MS	<i>Hakea tephrosperma</i>	Hooked Needlewood
MS	<i>Hakea leucoptera</i> ssp. <i>leucoptera</i>	Silver Needlewood
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Olearia pimeleoides</i>	Pimelea Daisy-bush
SS	<i>Rhagodia spinescens</i>	Hedge Saltbush
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
MH	<i>Vittadinia dissecta</i> s.l.	Dissected New Holland Daisy
MH	<i>Calandrinia eremaea</i>	Small Purslane
MH	<i>Crassula colorata</i>	Dense Crassula
SH	<i>Actinobole uliginosum</i>	Flannel Cudweed
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Austrostipa</i> spp.	Spear-grass
MNG	<i>Austrostipa elegantissima</i>	Feather Spear-grass

# EVC 97: Semi-arid Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20% cover

**Logs:**

20 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Brassica tournefortii</i>	Mediterranean Turnip	high	high
LH	<i>Reichardia tingitana</i>	Reichardia	high	low
MH	<i>Silene</i> spp.	Catchfly	high	high
SH	<i>Medicago minima</i>	Little Medic	high	high
MTG	<i>Schismus barbatus</i>	Arabian Grass	high	high
MTG	<i>Pentaschistis airoides</i> ssp. <i>airoides</i>	False Hair-grass	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	high
MNG	<i>Critesion murinum</i> subsp. <i>glaucum</i>	Blue Barley-grass	high	high
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 98: Semi-arid Chenopod Woodland

#### Description:

Sparse, low non-eucalypt woodland to 12 m tall of the arid zone with a tall open chenopod shrub-dominated understorey or a treeless, tall chenopod shrubland to 3 m tall. This EVC may occur as either a woodland (typically with a very open structure but tree cover >10%) or a shrubland (tree cover <10%) with trees as an occasional emergent.

+ woodland only components (ignore when assessing shrubland areas and standardise final score as appropriate)

#### Large trees<sup>+</sup>:

Species	DBH(cm)	#/ha
<i>Casuarina pauper</i>	40 cm	15/ha
<i>Allocasuarina luehmannii</i>	40 cm	
<i>Callitris gracilis</i>	40 cm	
<i>Myoporum platycarpum</i>	35 cm	

#### Tree Canopy Cover<sup>+</sup>:

% cover	Character Species	Common Name
15%	<i>Casuarina pauper</i>	Belah
	<i>Allocasuarina luehmannii</i>	Buloke
	<i>Myoporum platycarpum</i>	Sugarwood
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Native Pine

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree <sup>+</sup>		5%	IT
Understorey Tree or Large Shrub <sup>+</sup>	3	10%	T
Medium Shrub	2	40%	MS
Small Shrub	4	15%	SS
Prostrate Shrub	1	1%	PS
Large Herb*	2	5%	LH
Medium Herb*	6	15%	MH
Small or Prostrate Herb*	8	15%	SH
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	2	5%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	30%	S/C

\* Largely seasonal life form

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

T <sup>+</sup>	<i>Alectryon oleifolius</i> ssp. <i>canescens</i>	Cattlebush
T <sup>+</sup>	<i>Acacia melvillei</i>	Myall
T <sup>+</sup>	<i>Hakea leucoptera</i> ssp. <i>leucoptera</i>	Silver Needlewood
MS	<i>Maireana pyramidata</i>	Shrubby Bluebush
MS	<i>Maireana sedifolia</i>	Pearl Bluebush
MS	<i>Atriplex nummularia</i>	Old Man Saltbush
MS	<i>Nitraria billardierei</i>	Nitre-bush
SS	<i>Sclerolaena obliquicuspis</i>	Limestone Copperburr
SS	<i>Sclerolaena tricuspidata</i>	Three-spined Bassia
SS	<i>Sclerolaena divaricata</i>	Tangled Bassia
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
PS	<i>Scleroclamys brachyptera</i>	Short-wing Saltbush
LH	<i>Polycalymma stuartii</i>	Poached-egg Daisy
MH	<i>Brachyscome lineariloba</i>	Hard-head Daisy
MH	<i>Osteocarpum acropterum</i> var. <i>deminutum</i>	Babbagia
MH	<i>Zygophyllum crenatum</i>	Hard-head Daisy
MH	<i>Zygophyllum ammophilum</i>	Sand Twin-leaf

# EVC 98: Semi-arid Chenopod Woodland - Victorian Riverina bioregion

## Recruitment:

Continuous

## Organic Litter:

15% in woodland<sup>+</sup>

5% in shrubland

## Logs<sup>+</sup>:

5m/0.1ha

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Brassica tournefortii</i>	Mediterranean Turnip	high	high
LH	<i>Salvia verbenaca</i>	Wild Sage	high	high
LH	<i>Sisymbrium erysimoides</i>	Smooth Mustard	high	high
MH	<i>Reichardia tingitana</i>	False Sow-thistle	low	low
MH	<i>Limonium</i> spp.	Sea-lavender	high	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	high
MH	<i>Erodium cicutarium</i>	Common Heron's-bill	high	low
MH	<i>Carrichtera annua</i>	Ward's Weed	high	high
SH	<i>Medicago minima</i>	Little Medic	high	high
MTG	<i>Schismus barbatus</i>	Arabian Grass	high	high
MTG	<i>Critesion murinum</i> ssp. <i>glaucum</i>	Blue Barley-grass	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	high
MNG	<i>Vulpia</i> spp.		high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 101: Samphire Shrubland

#### Description:

Low open shrub layer to 0.5 m tall of succulent chenopods on saline clay pans. Found in association with the various halite salinas that have developed within evaporative basins or 'boinkas'.

#### Life forms:

Life form	#Spp	%Cover	LF code
Small Shrub	4	20%	SS
Medium Herb	7	5%	MH
Small or Prostrate Herb	3	5%	SH
Medium to Small Tufted Graminoid	2	1%	MTG
Medium to Tiny Non-tufted Graminoid	2	1%	MNG
<b>Total understorey projective foliage cover</b>		<b>20%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
SS	<i>Halosarcia pruinos</i>	Bluish Glasswort
SS	<i>Halosarcia halocnemoides</i> ssp. <i>halocnemoides</i>	Grey Glasswort
SS	<i>Halosarcia pergranulata</i>	Blackseed Glasswort
SS	r <i>Frankenia sessilis</i>	Small-leaf Sea-heath
MH	<i>Senecio glossanthus</i>	Slender Groundsel
MH	<i>Hymenolobus procumbens</i>	Oval Purse
MH	<i>Brachyscome lineariloba</i>	Hard-head Daisy
MH	r <i>Brachyscome exilis</i>	Finger-leaved Daisy
SH	<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Rounded Noon-flower
SH	<i>Pogonolepis muelleriana</i>	Stiff Cup-flower
SH	<i>Crassula sieberiana</i>	Sieber Crassula
SH	<i>Millotia muelleri</i>	Common Bow-flower
MTG	<i>Triglochin calcitrapum</i> s.l.	Spurred Arrowgrass
MNG	<i>Triglochin nanum</i>	Dwarf Arrowgrass

#### Recruitment:

Continuous

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Brassica tournefortii</i>	Mediterranean Turnip	high	high
MH	<i>Reichardia tingitana</i>	Reichardia	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Carrichtera annua</i>	Ward's Weed	high	high
MH	<i>Spergularia diandra</i>	Lesser Sand-spurrey	high	low
SH	<i>Medicago minima</i>	Little Medic	high	high
SH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MTG	<i>Critesion murinum</i> subsp. <i>glaucum</i>	Blue Barley-grass	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	high
MNG	<i>Vulpia bromoides</i>	Rat's-tail Fescue	high	high
SNG	<i>Schismus barbata</i>	Arabian Grass	high	low
SNG	<i>Lamarckia aurea</i>	Golden-top	high	low
SNG	<i>Parapholis incurva</i>	Coast Barb-grass	high	high
SNG	<i>Critesion murinum</i> subsp. <i>glaucum</i>	Blue Barley-grass	high	high



# EVC 101: Samphire Shrubland - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 103: Riverine Chenopod Woodland

#### Description:

Eucalypt woodland to 15 m tall with a diverse shrubby and grassy understorey occurring on most elevated riverine terraces. Confined to heavy clay soils on higher level terraces within or on the margins of riverine floodplains (or former floodplains), naturally subject to only extremely infrequent incidental shallow flooding from major events if at all flooded.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	50 cm	5/ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus largiflorens</i>	Black Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	30%	MS
Small Shrub	5	25%	SS
Prostrate Shrub	1	1%	PS
Medium Herb	5	5%	MH
Small or Prostrate Herb*	5	10%	SH
Medium to Small Tufted Graminoid	2	5%	MTG
Soil Crust	na	10%	S/C

\* Largely seasonal life form

**Total understorey projective foliage cover 65%**

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia stenophylla</i>	River Coobah
MS	<i>Atriplex nummularia</i>	Old-man Saltbush
MS	<i>Chenopodium nitariaceum</i>	Nitre Goosefoot
MS	<i>Eremophila divaricata</i> ssp. <i>divaricata</i>	Spreading Emu-bush
SS	<i>Sclerolaena tricuspidata</i>	Streaked Copperburr
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
SS	<i>Atriplex lindleyi</i>	Flat-top Saltbush
SS	<i>Rhagodia spinescens</i>	Hedge Saltbush
PS	<i>Sclerochlamys brachyptera</i>	Short-wing Saltbush
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
MH	<i>Calocephalus sonderi</i>	Pale Beauty-heads
MH	<i>Senecio glossanthus</i>	Slender Groundsel
MH	<i>Brachyscome lineariloba</i>	Hard-head Daisy
SH	<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Rounded Noon-flower
SH	<i>Maireana pentagona</i>	Hairy Bluebush

#### Recruitment:

Continuous

#### Organic Litter:

5% cover

#### Logs:

5 m/0.1 ha.

# EVC 103: Riverine Chenopod Woodland - Victorian Riverina bioregion

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Olea europaea</i> subsp. <i>europaea</i>	Olive	low	high
MS	<i>Lycium ferocissimum</i>	Boxthorn	low	high
LH	<i>Sisymbrium erysimoides</i>	Smooth Mustard	high	high
LH	<i>Critesion</i> spp.	Barley-grass	high	low
LH	<i>Gazania linearis</i>	Gazania	high	high
LH	<i>Opuntia</i> spp.	Prickly Pear	low	high
LH	<i>Sisymbrium irio</i>	London Mustard	high	high
LH	<i>Psilocalaon granulicaule</i>	Noon-flower	high	high
MH	<i>Limonium sinuatum</i>	Notch-leaf Sea-lavender	high	high
MH	<i>Limonium lobatum</i>	Winged Sea-lavender	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Mesembryanthemum nodiflora</i>	Ice-plant	high	high
MH	<i>Carrichtera annua</i>	Ward's Weed	high	high
MH	<i>Marrubium vulgare</i>	Horehound	high	high
MH	<i>Carpobrotus aequilaterus</i>	Angled Pigface	low	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	<i>Medicago</i> spp.	Medic	high	low
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
MH	<i>Silene gallica</i>	French Catchfly	high	low
MH	<i>Silene nocturna</i>	Mediterranean Catchfly	high	low
SH	<i>Mesembryanthemum crystallinum</i>	Common Ice-plant	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MTG	<i>Asphodelus fistulosus</i>	Onion Weed	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Bromus</i> spp.	Brome	high	high
MNG	<i>Schismus barbatus</i>	Arabian Grass	high	low
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 104: Lignum Swamp

#### Description:

Typically treeless shrubland to 4 m tall with robust (but sometimes patchy) growth of lignum. Widespread wetland vegetation type in low rainfall areas on heavy soils, subject to infrequent inundation resulting from overbank flows from rivers or local runoff.

#### Life forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	1	20%	MS
Large Herb*	4	5%	LH
Medium Herb*	8	25%	MH
Small or Prostrate Herb*	2	10%	SH
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	2	5%	MTG
Medium to Tiny Non-tufted Graminoid*	2	5%	MNG
Scrambler or Climber	1	1%	SC
Soil crust*	na	10%	S/C

\* Largely seasonal life form

**Total understorey projective foliage cover**

**75%**

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Muehlenbeckia florulenta</i>	Tangled Lignum
MS	<i>Chenopodium nitriaceum</i>	Nitre Goosefoot
SS	<i>Sclerolaena tricuspidis</i>	Three-spined Bassia
SS	<i>Sclerolaena muricata</i>	Five-spined Bassia
LH	<i>Rumex</i> spp.	Dock
MH	<i>Marsilea drummondii</i>	Common Nardoo
MH	<i>Goodenia</i> spp.	Goodenia
MH	<i>Ranunculus</i> spp.	Buttercup
LNG	<i>Eragrostis australasica</i>	Cane Grass
MNG	<i>Eragrostis infecunda</i>	Barren Cane grass
MTG	<i>Juncus</i> spp.	Rush
MNG	<i>Eleocharis</i> spp.	Spike-sedge
SC	<i>Asperula gemella</i>	Twin-leaf Bedstraw

#### Recruitment:

Continuous

#### Organic Litter:

5% cover

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
SH	<i>Phyla canescens</i>	Lippia	high	high

# EVC 104: Lignum Swamp - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 106: Grassy Riverine Forest

#### Description:

Occurs on the floodplain of major rivers, in a slightly elevated position where floods are infrequent, on deposited silts and sands, forming fertile alluvial soils. River Red Gum forest to 25 m tall with a groundlayer dominated by graminoids. Occasional tall shrubs present.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	90 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	10%	T
Large Herb	2	10%	LH
Medium Herb	3	10%	MH
Medium to Small Tufted Graminoid	3	25%	MTG
Medium to Tiny Non-tufted Graminoid	3	10%	MNG
Bryophytes/Lichens	na	10%	BL
<b>Total understorey projective foliage cover</b>		<b>75%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia stenophylla</i>	Eumong
LH	<i>Wahlenbergia fluminalis</i>	River Bluebell
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Goodenia fascicularis</i>	Silky Goodenia
MH	<i>Eclipta platyglossa</i>	Yellow Twin-heads
MTG	<i>Setaria jubiflora</i>	Warrego Summer-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

#### Recruitment:

Continuous

#### Organic Litter:

40 % cover

#### Logs:

30 m/0.1 ha.

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Lactuca serriola</i>	Prickly Lettuce	high	low
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Centaurea melitensis</i>	Malta Thistle	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Reichardia tingitana</i>	False Sow-thistle	high	low
MH	<i>Phyla canescens</i>	Fog-fruit	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low

# EVC 106: Grassy Riverine Forest – Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 107: Lake Bed Herbland

#### Description:

Herbland or shrubland to 0.5 m tall dominated by species adapted to drying mud within lake beds. Some evade periods of prolonged inundation as seed, others as dormant tuber-like rootstocks. Occupies drying deep-cracking mud of lakes on floodplains. Floods are intermittent but water may be retained for several seasons leading to active growth at the 'drying mud stage'.

#### Life forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	2	5%	MS
Small Shrub	2	5%	SS
Medium Herb*	3	25%	MH
Small or Prostrate Herb*	3	20%	SH
Medium to Small Tufted Graminoid	2	5%	MTG

\* Largely seasonal life form

**Total understorey projective foliage cover** **55%**

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Malva australiana</i> s.l.	Southern Hollyhock
MS	<i>Solanum simile</i>	Oondoroo
SS	<i>Glycyrrhiza acanthocarpa</i>	Southern Liquorice
SS	<i>Muehlenbeckia horrida</i> ssp. <i>horrida</i>	Spiny Lignum
MH	<i>Chenopodium pumilio</i>	Clammy Goosefoot
MH	<i>Chenopodium glaucum</i>	Glaucous Goosefoot
SH	<i>Glossostigma elatinooides</i>	Small Mud-mat
SH	<i>Glinus lotoides</i>	Hairy Carpet-weed
SH	<i>Mukia micrantha</i>	Mallee Cucumber

#### Recruitment:

Episodic/Flood. Desirable period between disturbances is 10 years.

#### Organic Litter:

5% cover

#### Weediness:

There are no consistent weeds in this EVC.

# EVC 107: Lake Bed Herbland – Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 125: Plains Grassy Wetland

#### Description:

This EVC is usually treeless, but in some instances can include sparse Black Box *Eucalyptus largiflorens* or River Red Gum *Eucalyptus camaldulensis*. A sparse shrub component may also be present. The characteristic ground cover is dominated by grasses and small sedges and herbs. The vegetation is typically species-rich on the outer verges but is usually species-poor in the wetter central areas.

#### Life forms:

Life form	#Spp	%Cover	LF code
Large Herb	5	5%	LH
Medium Herb	11	20%	MH
Small or Prostrate Herb	6	10%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	7	20%	MTG
Medium to Tiny Non-tufted Graminoid	3	30%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Rumex dumosus</i>	Wiry Dock
LH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
LH	<i>Epilobium hirtigerum</i>	Hairy Willow-herb
LH	<i>Eryngium ovium</i>	Blue Devil
MH	<i>Craspedia glauca</i> spp. agg.	Common Billy-buttons
MH	<i>Potamogeton tricarlinatus</i> s.l.	Floating Pondweed
MH	<i>Marsilea drummondii</i>	Common Nardoo
SH	<i>Lobelia concolor</i>	Poison Pratia
SH	<i>Limosella australis</i>	Austral Mudwort
SH	<i>Myriocephalus rhizocephalus</i>	Woolly-heads
SH	<i>Neopaxia australasica</i>	White Purslane
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Juncus flavidus</i>	Gold Rush
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Carex inversa</i>	Knob Sedge
MTG	<i>Amphibromus macrorrhinus</i>	Long-nosed Swamp Wallaby-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eragrostis infecunda</i>	Southern Cane-grass

#### Recruitment:

Episodic/Flood. Desirable period between disturbances is 5 years.

#### Organic Litter:

10% cover

#### Logs:

5 m/0.1 ha. (where trees are overhanging the wetland)

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Critetion hystrix</i>	Mediterranean Barley-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low



# EVC 125: Plains Grassy Wetland - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 127: Valley Heathy Forest

#### Description:

A low, open forest to 15 m tall with a sedgy/grassy understorey with a component of small ericoid shrubs and grass-trees. Soil and moisture factors are critical in delimiting the vegetation.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus goniocalyx</i> s.l.	Bundy
	<i>Eucalyptus macrorhyncha</i>	Red Stringybark

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	7	15%	MS
Small Shrub	5	5%	SS
Prostrate Shrub	2	1%	PS
Medium Herb	6	10%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	3	5%	LTG
Large Non-tufted Graminoid	2	20%	LNG
Medium to Small Tufted Graminoid	6	15%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Ground Fern	1	1%	GF
Scrambler or Climber	3	5%	SC
Bryophytes/Lichens	na	10%	BL

# EVC 127: Valley Heathy Forest - Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Epacris impressa</i>	Common Heath
MS	<i>Cassinia aculeata</i>	Common Cassinia
MS	<i>Daviesia leptophylla</i>	Narrow-leaf Bitter-pea
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
SS	<i>Platylobium obtusangulum</i>	Common Flat-pea
SS	<i>Dillwynia cinerascens s.l.</i>	Grey Parrot-pea
SS	<i>Hovea heterophylla</i>	Common Hovea
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Acrotriche serrulata</i>	Honey-pots
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
MH	<i>Leptorhynchus tenuifolius</i>	Wiry Buttons
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Helichrysum scorpioides</i>	Button Everlasting
SH	<i>Opercularia varia</i>	Variable Stinkweed
SH	<i>Drosera whittakeri ssp. aberrans</i>	Scented Sundew
SH	<i>Oxalis corniculata s.l.</i>	Yellow Wood-sorrel
LTG	<i>Xanthorrhoea minor ssp. lutea</i>	Small Grass-tree
LTG	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
LNG	<i>Gahnia radula</i>	Thatch Saw-sedge
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Joycea pallida</i>	Silvertop Wallaby-grass
MTG	<i>Poa morrisii</i>	Soft Tussock-grass
MTG	<i>Dianella revoluta s.l.</i>	Black-anther Flax-lily
MNG	<i>Microlaena stipoides var. stipoides</i>	Weeping Grass
GF	<i>Lindsaea linearis</i>	Screw Fern
SC	<i>Billardiera scandens</i>	Common Apple-berry
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea

## Recruitment:

Episodic/Fire. Desirable period between disturbances is 30 years.

## Organic Litter:

40 % cover

## Logs:

20 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Pinus radiata</i>	Radiata Pine	low	high
MS	<i>Rubus fruticosus spp. agg.</i>	Blackberry	high	high
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 132: Plains Grassland

#### Description:

Treeless vegetation dominated by largely grass and herb life forms. Shrubs and trees may be also occasionally present.

#### Life forms:

Life form	#Spp	%Cover	LF code
Small Shrub	2	5%	SS
Large Herb	3	5%	LH
Medium Herb*	10	20%	MH
Small or Prostrate Herb*	3	5%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	10	30%	MTG
Medium to Tiny Non-tufted Graminoid*	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

\* Largely seasonal life form

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

MS	<i>Acacia oswaldii</i>	Umbrella Wattle
SS	<i>Sclerolaena napiformis</i>	Turnip Copperburr
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Maireana decalvans</i>	Black Cotton-bush
SS	<i>Pimelea curviflora s.s.</i>	Curved Rice-flower
LH	<i>Ptilotus exaltatus</i>	Mulla Mulla
LH	<i>Eryngium ovinum</i>	Blue Devil
LH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
MH	<i>Calotis scabiosifolia</i>	Rough Burr-daisy
MH	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
MH	<i>Sida corrugata</i>	Variable Sida
MH	<i>Ptilotus macrocephalus</i>	Feather Heads
SH	<i>Maireana pentagona</i>	Hairy Bluebush
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Pogonolepis muelleriana</i>	Stiff Cup-flower
LTG	<i>Austrostipa blackii</i>	Crested Spear-grass
LTG	<i>Austrostipa gibbosa</i>	Spurred Spear-grass
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Austrostipa nodosa</i>	Knotty Spear-grass
MTG	<i>Whalleya proluta</i>	Rigid Panic
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

#### Recruitment:

Episodic/Fire or Grazing. Desirable period between disturbances is 5 years.

#### Organic Litter:

10% cover

# EVC 132: Plains Grassland - Victorian Riverina bioregion

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	Boxthorn	high	high
LH	<i>Helminthotheca echinoides</i>	Ox-tongue	high	low
LH	<i>Lepidium africanum</i>	Common Peppergrass	high	low
LH	<i>Salvia verbenaca</i>	Wild Sage	high	high
LH	<i>Echium plantagineum</i>	Patterson's Curse	high	high
LH	<i>Sisymbrium irio</i>	London Rocket	high	high
LH	<i>Marrubium vulgare</i>	Horehound	high	high
LNG	<i>Avena fatua</i>	Wild Oat	high	high
MH	<i>Limonium sinuatum</i>	Wild Oat	high	high
MH	<i>Arctotheca calendula</i>	Cape Weed	high	high
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
MH	<i>Plantago coronopus</i>	Buck's-horn Plantain	high	high
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	high
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	high
MH	<i>Trifolium striatum</i>	Knotted Clover	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Hedypnois cretica</i>	Cretan Hedypnois	high	high
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MNG	<i>Avena barbata</i>	Bearded Oat	high	high
MNG	<i>Brachypodium distachyon</i>	False Brome	high	high
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	high
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	high
MTG	<i>Bromus diandrus</i>	Great Brome	high	high
MTG	<i>Critiesion hystris</i>	Mediterranean Barley-grass	high	high
MTG	<i>Critiesion murinum</i>	Barley-grass	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	high
MTG	<i>Pentstemon airoides</i> ssp. <i>airoides</i>	False Hair-grass	high	low
MTG	<i>Poa bulbosa</i>	Bulbous Meadow-grass	high	high
MTG	<i>Romulea minutiflora</i>	Small-flower Onion-grass	high	high
MTG	<i>Romulea rosea</i>	Onion Grass	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	high
SH	<i>Medicago minima</i>	Little Medic	high	high
SH	<i>Medicago polymorpha</i>	Burr Medic	high	high
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 175\_61: *Low Rises* Grassy Woodland

#### Description:

A variable open eucalypt woodland to 15 m tall or occasionally Sheoak woodland to 10 m tall on more skeletal soils. Understorey includes a diverse ground layer of grasses and herbs. The shrub component is usually sparse. It occurs on sites with moderate fertility on gentle slopes or undulating hills on a range of geologies.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha
<i>Allocasuarina</i> spp.	40 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus albens</i>	White Box
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
	<i>Allocasuarina verticillata</i>	Drooping Sheoak

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	10%	MS
Small Shrub	4	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	12	20%	MH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	19	40%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
SS	<i>Templetonia stenophylla</i>	Leafy Templetonia
SS	<i>Pimelea curviflora</i> s.l.	Curved Rice-flower
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
MH	<i>Asperula conferta</i>	Common Woodruff
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Bothriochloa macra</i>	Red-leg Grass
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MNG	<i>Austrostipa elegantissima</i>	Feather Spear-grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock Fern
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

# EVC 175\_61: *Low Rises* Grassy Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20 % cover

**Logs:**

15 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Salvia verbenaca</i>	Wild Sage	high	high
LH	<i>Carduus tenuiflorus</i>	Winged Thistle	high	high
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Parentucellia latifolia</i>	Red Bartsia	high	low
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Romulea minutiflora</i>	Small-flower Onion-grass	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Lolium loliaceum</i>	Stiff Rye-grass	high	low
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	low
MTG	<i>Ehrharta longiflora</i>	Annual Veldt-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Dactylis glomerata</i>	Cocksfoot	high	high
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 175\_62: *Shrubby Granitic-outwash* Grassy Woodland

#### Description:

A variable open eucalypt woodland to 15 m tall occurring on the lower slopes of granitic hills where the outwash intersects with the plains. It is restricted to free draining, deep sandy colluviums on gentle, lower slopes at altitudes of less than 300 m. The understorey includes a diverse ground layer of grasses and herbs and may include a suite of heathy shrubs more typical of sandy soils.

#### Large trees:

Species	DBH(cm)	# / ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha
<i>Allocasuarina</i> spp.	50 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus blakelyi</i>	Blakely's Red Gum
	<i>Eucalyptus macrorhyncha</i>	Red Stringybark
	<i>Eucalyptus polyanthemos</i>	Red Box
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus goniacalyx</i> s.l.	Long-leaf Box
	<i>Allocasuarina verticillata</i>	Drooping Sheoak

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	2	5%	MS
Small Shrub	7	15%	SS
Prostrate Shrub	1	1%	PS
Medium Herb	8	10%	MH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	10	20%	MTG
Medium to Tiny Non-tufted Graminoid	5	10%	MNG
Ground Fern	1	1%	GF
Scrambler or Climber	1	1%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

#### Recruitment:

Continuous

#### Organic Litter:

20 % cover

#### Logs:

15 m/0.1 ha.

# EVC 175\_62: *Shrubby Granitic-outwash* Grassy Woodland - Victorian Riverina bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia implexa</i>	Lightwood
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
SS	<i>Acacia aspera</i>	Rough Wattle
SS	<i>Hibbertia obtusifolia</i>	Grey Guinea-flower
SS	<i>Dillwynia phyllicoides</i>	Small-leaf Parrot-pea
SS	<i>Hibbertia riparia</i>	Upright Guinea-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Chrysocephalum semipapposum</i>	Clustered Everlasting
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Geranium solanderi</i> s.l.	Austral Cranesbill
MH	<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall Sundew
SH	<i>Drosera whittakeri</i> ssp. <i>aberrans</i>	Scented Sundew
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Stuartina muelleri</i>	Spoon Cudweed
LTG	<i>Dichelachne crinita</i>	Long-hair Plume-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Aristida ramosa</i>	Cane Wire-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock Fern
SC	<i>Hardenbergia violacea</i>	Purple Coral-pea

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Hypericum perforatum</i>	St John's-wort	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Salvia verbenaca</i>	Wild Sage	high	high
LH	<i>Carduus tenuiflorus</i>	Winged Thistle	high	high
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Parentucellia latifolia</i>	Red Bartsia	high	low
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	high	high
MTG	<i>Romulea minutiflora</i>	Small-flower Onion-grass	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Lolium loliaceum</i>	Stiff Rye-grass	high	low
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	low
MTG	<i>Ehrharta longiflora</i>	Annual Veldt-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Dactylis glomerata</i>	Cocksfoot	high	high
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 235: Plains Woodland / Herb-rich Gilgai Wetland Mosaic

#### Description:

Open woodland to 15 m tall on broad alluvial plains and along ephemeral drainage lines. Soils are generally poorly drained heavy clays which form distinctive "gilgai" crests and troughs in a fine-scale mosaic. The understorey consists of few, if any shrubs while the ground layer is made up of a combination of "dryland" herbs/grasses and amphibious herbs/grasses tolerant of seasonal inundation.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	10 / ha
<i>Allocasuarina luehmannii</i>	40 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Allocasuarina luehmannii</i>	Buloke

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	10%	MS
Large Herb	2	5%	LH
Medium Herb	9	15%	MH
Small or Prostrate Herb	3	15%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	8	20%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>90%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Veronica plebeia</i>	Trailing Speedwell
MH	<i>Calotis anthemoides</i>	Cut-leaf Burr-daisy
MH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
MH	<i>Vittadinia cuneata</i>	Fuzzy New Holland-daisy
SH	<i>Cymbonotus preissianus</i>	Austral Bear's-ear
SH	<i>Myriophyllum integrifolium</i>	Tiny Water-milfoil
SH	<i>Phyllangium divergens</i>	Wiry Mitrewort
LTG	<i>Juncus pallidus</i>	Pale Rush
LTG	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Isolepis platycarpa</i>	Broad-fruit Club-sedge
MTG	<i>Pentapogon quadrifidus</i>	Five-awned Spear-grass
MTG	<i>Burchardia umbellata</i>	Milkmaids
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
TTG	<i>Centrolepis fascicularis</i>	Tufted Centrolepis



# EVC 235: Plains Woodland / Herb-rich Gilgai Wetland Mosaic - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20 % cover

**Logs:**

15 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Arctotheca calendula</i>	Cape Weed	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 264: Sand Ridge Woodland

#### Description:

Open pine-box woodland to 15 m tall with a small or medium shrub layer of variable density and including a range of annual herbs, grasses and geophytes, in the dense ground layer. Occupies distinctive sandy rises (or sand mounts) adjacent to major rivers and wetlands. Very sandy, deep, free draining, moderately fertile soil, developed on sand blown up by wind action from a prior stream bed.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha
<i>Callitris glaucophylla</i>	40 cm	
<i>Allocasuarina luehmannii</i>	40 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Callitris glaucophylla</i>	White Cypress-pine
	<i>Allocasuarina luehmannii</i>	Buloke

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	4	20%	MS
Small Shrub	3	10%	SS
Prostrate Shrub	2	5%	PS
Large Herb	2	5%	LH
Medium Herb	10	15%	MH
Small or Prostrate Herb	5	5%	SH
Large Tufted Graminoid	3	10%	LTG
Medium to Small Tufted Graminoid	8	15%	MTG
Ground Fern	1	5%	GF
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

MS	<i>Dodonaea viscosa</i>	Sticky Hop-bush
MS	<i>Banksia marginata</i>	Silver Banksia
SS	<i>Pultenaea tenuifolia</i>	Slender Bush-pea
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
PS	<i>Kennedia prostrata</i>	Running Postman
LH	<i>Senecio quadridentatus</i>	Cottony Fireweed
LH	<i>Senecio tenuiflorus</i>	Narrow-leaf Groundsel
MH	<i>Wahlenbergia gracilis</i> s.l.	Sprawling Bluebell
MH	<i>Wahlenbergia luteola</i>	Tufted Bluebell
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
SH	<i>Crassula sieberiana</i>	Sieber Crassula
SH	<i>Millotia tenuifolia</i> var. <i>tenuifolia</i>	Soft Millotia
SH	<i>Euchiton sphaericus</i>	Annual Cudweed
SH	<i>Stuartina muelleri</i>	Spoon Cudweed
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Dichelachne crinita</i>	Long-hair Plume-grass
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel

# EVC 264: Sand Ridge Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

10 % cover

**Logs:**

15 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Chrysanthemoides monilifera</i>	Boneseed	high	high
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MNG	<i>Vulpia bromoides</i>	Rat's-tail Fescue	high	low
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira caryophylla</i>	Silvery Hair-grass	high	low
MNG	<i>Ehrharta calycina</i>	Perennial Veldt-grass	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 292: Red Gum Swamp

#### Description:

Open woodland to 15 m tall with a diverse understorey dominated by sedgy or grassy-herbaceous aquatics and species tolerant of intermittent to seasonal inundation. Occurs on alluvial plains in the seasonally wet depressions of shallow drainage lines or prior stream meanders, typically associated with heavy paludal soils, sometimes with gilgai development. The annual rainfall across its distribution is generally below 700 mm, and the period of inundation may range from 2 to 6 months.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	10 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	10%	T
Medium Herb	1	15%	MH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	2	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	40%	MNG
Bryophytes/Lichens	na	10%	BL
<b>Total understorey projective foliage cover</b>		<b>90%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MH	<i>Potamogeton tricarlinatus</i> s.l.	Floating Pondweed
MH	<i>Gratiola peruviana</i>	Austral Brooklime
SH	<i>Lobelia pratioides</i>	Poison Lobelia
LTG	<i>Juncus flavidus</i>	Gold Rush
LTG	<i>Carex tereticaulis</i>	Hollow Sedge
MTG	<i>Triglochin procerum</i> s.l.	Water Ribbons
MTG	<i>Whalleya prolata</i>	Rigid Panic
MTG	<i>Lachnagrostis filiformis</i> var. <i>filiformis</i>	Common Blown-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eragrostis infecunda</i>	Southern Cane-grass

#### Recruitment:

Episodic/Flood. Desirable period between disturbances is 5 years.

#### Organic Litter:

20 % cover

#### Logs:

15 m/0.1 ha.

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
SH	<i>Callitriche hamulata</i>	Thread Water-starwort	high	low

# EVC 292: Red Gum Swamp - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 295: Riverine Grassy Woodland

#### Description:

Occurs on the floodplain of major rivers, in a slightly elevated position where floods are infrequent, on deposited silts and sands, forming fertile alluvial soils. River Red Gum woodland to 20 m tall with a groundlayer dominated by graminoids. Occasional tall shrubs present.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Small Shrub	1	1%	SS
Medium Herb	2	1%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	5	20%	MTG
Medium to Tiny Non-tufted Graminoid	2	20%	MNG
Bryophytes/Lichens	na	10%	BL
<b>Total understorey projective foliage cover</b>		<b>65%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
MH	<i>Sida corrugata</i>	Variable Sida
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Azolla filiculoides</i>	Pacific Azolla
LTG	<i>Austrostipa gibbosa</i>	Spurred Spear-grass
LTG	<i>Carex tereticaulis</i>	Hollow Sedge
MTG	<i>Chloris truncata</i>	Windmill Grass
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Aristida behriana</i>	Brush Wire-grass
MTG	<i>Elymus scaber var. scaber</i>	Common Wheat-grass
MNG	<i>Pseudoraphis spinescens</i>	Spiny Mud-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

#### Recruitment:

Continuous

#### Organic Litter:

10 % cover

#### Logs:

20 m/0.1 ha.

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low

# EVC 295: Riverine Grassy Woodland - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 641: Riparian Woodland

#### Description:

Occurs beside permanent streams, typically on narrow alluvial deposits. Woodland to 15 m tall generally dominated by *Eucalyptus camaldulensis* over a tussock grass-dominated understorey. Tall shrubs may be present and amphibious herbs may occur in occasional ponds and beside creeks. While flooding may be common, sites are rarely inundated for lengthy periods.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	15 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	10%	T
Medium Shrub	2	10%	MS
Large Herb	4	10%	LH
Medium Herb	5	10%	MH
Small or Prostrate Herb	1	1%	SH
Large Tufted Graminoid	3	10%	LTG
Medium to Small Tufted Graminoid	4	30%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens	na	10%	BL

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

T	<i>Acacia dealbata</i>	Silver Wattle
MS	<i>Exocarpos strictus</i>	Pale-fruit Ballart
LH	<i>Wahlenbergia gracilis</i> s.s.	Sprawling Bluebell
LH	<i>Myriophyllum crispatum</i>	Upright Water-milfoil
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
LH	<i>Wahlenbergia fluminalis</i>	River Bluebell
MH	<i>Rumex brownii</i>	Slender Dock
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Mentha australis</i>	River Mint
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
LTG	<i>Carex tereticaulis</i>	Hollow Sedge
MTG	<i>Lachnagrostis filiformis</i> var. <i>filiformis</i>	Common Blown-grass
MTG	<i>Juncus amabilis</i>	Hollow Rush
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Dichelachne crinita</i>	Long-hair Plume-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Cynodon dactylon</i>	Couch
SC	<i>Calystegia sepium</i>	Large Bindweed

# EVC 641: Riparian Woodland – Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

30% cover

**Logs:**

20m / 0.1 ha

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Rosa rubiginosa</i>	Sweet Briar	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	low
LH	<i>Rumex crispus</i>	Curled Dock	high	low
LH	<i>Aster subulatus</i>	Aster-weed	high	low
LH	<i>Rorippa palustris</i>	Marsh Yellow-cress	high	high
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	high	high
MNG	<i>Paspalum distichum</i>	Water Couch	high	high
SC	<i>Galium aparine</i>	Cleavers	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 652: Lunette Woodland

#### Description:

An open, eucalypt woodland to 15 m tall with a grassy and herb-rich understorey. Occurs on generally fertile, relatively well-drained, clay-loam soils on source-bordering lunettes.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	8 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus camaldulensis</i>	River Red Gum
	<i>Eucalyptus melliodora</i>	Yellow Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	10%	MS
Small Shrub	1	1%	SS
Large Herb	3	5%	LH
Medium Herb	8	15%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	12	45%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia implexa</i>	Lightwood
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
SS	<i>Pimelea humilis</i>	Common Rice-flower
LH	<i>Wahlenbergia</i> spp.	Bluebell
MH	<i>Sida corrugata</i>	Variable Sida
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
MTG	<i>Lomandra multiflora</i> ssp. <i>multiflora</i>	Many-flowered Mat-rush
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Stiped Wallaby-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass



# EVC 652: Lunette Woodland – Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

10 % cover

**Logs:**

10 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	African Box-thorn	low	high
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 803: Plains Woodland (*syn. Riverina Plains Grassy Woodland*)

#### Description:

An open, eucalypt woodland to 15 m tall occurring on a number of geologies and soil types. Occupies fertile clays and clay loam soils on flat or gently undulating plains at low elevations in areas with <600 mm annual rainfall. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer and chenopods are often present.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha
<i>Eucalyptus largiflorens</i>	50 cm	
<i>Allocasuarina</i> spp.	40 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus camaldulensis</i>	River Red Gum
	<i>Eucalyptus largiflorens</i>	Black Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Allocasuarina luehmannii</i>	Buloke

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	1%	MS
Small Shrub	1	1%	SS
Large Herb	1	5%	LH
Medium Herb	11	25%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	15	45%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

MS	<i>Acacia montana</i>	Mallee Wattle
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Pittosporum angustifolium</i>	Weeping Pittosporum
SS	<i>Pimelea curviflora</i> s.l.	Curved Rice-flower
SS	<i>Eutaxia microphylla</i> var. <i>microphylla</i>	Common Eutaxia
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
LH	<i>Ajuga australis</i>	Austral Bugle
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Einadia hastata</i>	Saloop
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
SH	<i>Crassula sieberiana</i>	Sieber Crassula
SH	<i>Actinobole uliginosum</i>	Flannel Cudweed
SH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Calotis hispidula</i>	Hairy Burr-daisy
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Enteropogon acicularis</i>	Spider Grass

# EVC 803: Plains Woodland (*syn. Riverina Plains Grassy Woodland*) - Victorian Riverina bioregion

## Recruitment:

Continuous

## Organic Litter:

10 % cover

## Logs:

10 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	Boxthorn	low	high
LH	<i>Brassica tournefortii</i>	Mediterranean Turnip	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Opuntia</i> spp	Prickly Pear	low	high
MH	<i>Gazania linearis</i>	Gazania	high	high
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	<i>Silene longicaulis</i>	Portuguese Catchfly	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Arctotheca calendula</i>	Cape Weed	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Trifolium dubium</i>	Suckling Clover	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	low	low
SH	<i>Medicago minima</i>	Little Medic	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	low	low
MTG	<i>Schismus barbatus</i>	Arabian Grass	high	low
MTG	<i>Poa bulbosa</i>	Bulbous Meadow-grass	high	high
MTG	<i>Pentstemon airoides</i> subsp. <i>airoides</i>	False Hair-grass	high	high
MTG	<i>Romulea rosea</i>	Onion Grass	high	high
MNG	<i>Bromus rubens</i>	Red Brome	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Romulea rosea</i>	Onion Grass	high	low
MNG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 810: Floodway Pond Herbland

#### Description:

Low herbland to < 0.3 m tall with occasional emergent life forms, usually with a high content of ephemeral species. Floors of ponds associated with floodway systems. Typically heavy deeply cracking clay soils. Characteristically smaller wetlands with a more regular flooding and drying cycle in comparison to sites supporting Lake Bed Herbland.

#### Life forms:

Life form	#Spp	%Cover	LF code
Large Herb	1	1%	LH
Medium Herb	5	20%	MH
Small or Prostrate Herb*	4	15%	SH
Medium to Small Tufted Graminoid	2	10%	MTG
Medium to Tiny Non-tufted Graminoid	3	20%	MNG

\* Largely seasonal life form

**Total understorey projective foliage cover** **65%**

LF Code	Species typical of at least part of EVC range	Common Name
MH	<i>Persicaria prostrata</i>	Creeping Knotweed
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
MH	<i>Alternanthera denticulata</i> s.l.	Lesser Joyweed
SH	<i>Polygonum plebeium</i>	Small Knotweed
SH	<i>Dysphania glomulifera</i> ssp. <i>glomulifera</i>	Globular Pigweed
SH	<i>Lemna disperma</i>	Common Duckweed
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MNG	<i>Pseudoraphis spinescens</i>	Spiny Mud Grass
MNG	<i>Carex gaudichaudiana</i>	Fen Sedge
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

#### Recruitment:

Episodic/Flood. Desirable period between disturbances is 5 years.

#### Organic Litter:

5% cover

#### Logs:

5 m/0.1 ha.(where trees are overhanging the wetland)

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Callitriche stagnalis</i>	Water Starwort	high	high

# EVC 810: Victorian Riverina - Murray Fans bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 813: Intermittent Swampy Woodland

#### Description:

Eucalypt woodland to 15 m tall with a variously shrubby and rhizomatous sedgy - turf grass understorey, at best development dominated by flood stimulated species in association with flora tolerant of inundation. Flooding is unreliable but extensive when it happens. Occupies low elevation areas on river terraces (mostly at the rear of point-bar deposits or adjacent to major floodways) and lacustrine verges (where sometimes localised to narrow transitional bands). Soils often have a shallow sand layer over heavy and frequently slightly brackish soils.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus camaldulensis</i>	70 cm	15 / ha
<i>Eucalyptus largiflorens</i>	50 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus largiflorens</i>	Black Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	1	5%	MS
Small Shrub	1	5%	SS
Large Herb	2	5%	LH
Medium Herb	5	10%	MH
Small or Prostrate Herb	1	5%	SH
Medium to Small Tufted Graminoid	3	30%	MTG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
<b>Total understorey projective foliage cover</b>		<b>70%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia stenophylla</i>	River Coobah
MS	<i>Muehlenbeckia florulenta</i>	Tangled Lignum
SS	<i>Cressa cretica</i>	Rosinweed
LH	<i>Stemodia florulenta</i>	Blue Rod
LH	<i>Wahlenbergia fluminalis</i>	River Bluebell
MH	<i>Haloragis aspera</i>	Rough Raspwort
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
MH	<i>Calocephalus sonderii</i>	Pale Beauty-heads
SH	<i>Epiltes australis</i>	Spreading Nut-heads
MTG	<i>Sporobolus mitchellii</i>	Rat-tail Couch
MTG	<i>Cyperus gymnocaulos</i>	Spring Flat-sedge
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MNG	<i>Cynodon dactylon</i> var. <i>pulchellus</i>	Native Couch

#### Recruitment:

Continuous

#### Organic Litter:

20 % cover

#### Logs:

20 m/0.1 ha.

#### Weediness:

There are no consistent weeds in this EVC.

# EVC 813: Intermittent Swampy Woodland - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 814: Riverine Swamp Forest

#### Description:

Open eucalypt forest to 25 m tall with understorey dominated by obligate wetland species (or opportunistic annuals during sustained dry periods) and can range from closed sedgeland or herbland to grassy-herbaceous or extremely sparse and with cover primarily leaf-litter, black water or exposed alluvium. Occupies low-lying areas subject to reasonably regular flooding, typically flood-prone lower river terraces and low-lying areas adjacent to floodways through or within riverine forest.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	90 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Large Herb	2	5%	LH
Medium Herb	6	15%	MH
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	1	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	30%	MNG
<b>Total understorey projective foliage cover</b>		<b>65%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Wahlenbergia fluminalis</i>	River Bluebell
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Alternanthera denticulata</i> s.l.	Lesser Joyweed
MH	<i>Ranunculus inundatus</i>	River Buttercup
MH	<i>Ranunculus pumilio</i> var. <i>pumilio</i>	Fan-leaf Buttercup
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Lachnagrostis filiformis</i>	Common Blown Grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Cynodon dactylon</i> var. <i>pulchellus</i>	Native Couch

#### Recruitment:

Continuous

#### Organic Litter:

20 % cover

#### Logs:

20 m/0.1 ha.

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Phyla canescens</i>	Fog-fruit	high	high

# EVC 814: Riverine Swamp Forest – Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 815: Riverine Swampy Woodland

#### Description:

Eucalypt woodland to 15 m tall above a grassy to sedgy – herbaceous ground layer, with species indicative of periodic water-logging. Occupies areas subject to shallow inundation only from higher-level flooding on riverine flood plain. Soils are typically heavy, cracking mottled grey-brown clays/clay-loams and water-retentive, often with a gilgai profile which can be wet during winter.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus camaldulensis</i>	70 cm	15 / ha
<i>Eucalyptus largiflorens</i>	50 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus largiflorens</i>	Black Box

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Large Herb	2	5%	LH
Medium Herb	3	10%	MH
Small or Prostrate Herb	1	5%	SH
Large Tufted Graminoid	3	10%	LTG
Medium to Small Tufted Graminoid	2	10%	MTG
Medium to Tiny Non-tufted Graminoid	3	20%	MNG
<b>Total understorey projective foliage cover</b>		<b>65%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Wahlenbergia fluminalis</i>	River Bluebell
LH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
MH	<i>Marsilea drummondii</i>	Common Nardoo
SH	<i>Lobelia concolor</i>	Poison Pratia
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Carex tereticaulis</i>	Rush Sedge
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eleocharis pusilla</i>	Small Spike-sedge

#### Recruitment:

Episodic/Flood. Desirable period between disturbances is 5 years.

#### Organic Litter:

10% cover

#### Logs:

10 m/0.1 ha.

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Critetion hystrix</i>	Mediterranean Barley-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low



# EVC 815: Riverine Swampy Woodland – Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 816: Sedgy Riverine Forest

#### Description:

Riverine Sedgy Forest occurs on the floodplain of major rivers in areas of frequent flooding. The overstorey is a tall forest of River Red Gum to 25 m tall. The groundlayer is dominated by flood-related grass and sedge species. Depending on time of year and flooding level, associated water plants may be present.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	90 cm	20 / ha

#### Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus camaldulensis</i>	River Red-gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Large Herb	2	5%	LH
Medium Herb	7	15%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	2	10%	LTG
Medium to Small Tufted Graminoid	4	5%	MTG
Medium to Tiny Non-tufted Graminoid	3	20%	MNG
Bryophytes/Lichens	na	10%	BL
<b>Total understorey projective foliage cover</b>		<b>80%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Epilobium billardierianum</i> ssp. <i>cinereum</i>	Grey Willow-herb
MH	<i>Myriophyllum crispatum</i>	Upright Water-milfoil
MH	<i>Goodenia gracilis</i>	Slender Goodenia
MH	<i>Lythrum hyssopifolia</i>	Small Loosestrife
MH	<i>Marsilea drummondii</i>	Common Nardoo
SH	<i>Azolla filiculoides</i>	Pacific Azolla
SH	<i>Ludwigia peploides</i> ssp. <i>montevidensis</i>	Clove-strip
SH	<i>Lobelia concolor</i>	Poison Pratia
SH	<i>Elatine gratioloides</i>	Waterwort
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Juncus aridicola</i>	Tussock Rush
MTG	<i>Triglochin procerum</i> s.l.	Water Ribbons
MTG	<i>Carex inversa</i>	Knob Sedge
MTG	<i>Setaria jubiflora</i>	Warrego Summer-grass
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MNG	<i>Eleocharis pusilla</i>	Small Spike-sedge
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
EP	<i>Muellerina eucalyptoides</i>	Creeping Mistletoe

# EVC 816: Sedgy Riverine Forest - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

10 % cover

**Logs:**

20 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 819: Spike-sedge Wetland

#### Description:

Low sedgy vegetation of species-poor seasonal or intermittent wetlands, dominated by spike-sedges. Typically treeless, but sometimes with thickets of saplings or scattered more mature specimens of *Eucalyptus camaldulensis*. Mostly confined to a narrow ring around the upper margins of floodway ponds. Soils are typically heavy clays (e.g. mottled yellow-grey clay, grey loamy clay), occasionally silty near the surface. In some riverine sites, annual inundation is not reliable and the rhizomic rootstocks of *Eleocharis acuta* appear capable of surviving at least occasional periods of longer dormancy.

#### Life Forms:

Life form	#Spp	%Cover	LF code
Medium Herb	2	5%	MH
Small or Prostrate Herb	2	5%	SH
Medium to Small Tufted Graminoid	2	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	60%	MNG
<b>Total understorey projective foliage cover</b>		<b>75%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MH	<i>Lythrum hyssopifolia</i>	Small Loosestrife
SH	<i>Crassula helmsii</i>	Swamp Crassula
MTG	<i>Triglochin procerum</i> s.l.	Water-ribbons
MTG	<i>Lachnagrostis filiformis</i>	Common Blown Grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

#### Recruitment:

Episodic/Flood – desirable period is every five years

#### Organic Litter:

20% Cover

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Aster subulatus</i>	Aster-weed	high	low
MNG	<i>Paspalum distichum</i>	Water Couch	high	high

# EVC 819: Spike-sedge Wetland - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 821: Tall Marsh

#### Description:

Wetland dominated by tall emergent graminoids (rushes, sedges, reeds), typically in thick species-poor swards. Competitive exclusion in core wetland habitat - of optimum growing conditions for species tolerant of sustained shallow inundation. Occupies wetlands usually associated with anabranch creeks. Soils are almost permanently moist. Dominant species are tolerant of relatively deep and sustained inundation, but not total immersion for any sustained period.

#### Life Forms:

Life form	#Spp	%Cover	LF code
Medium Herb	6	20%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	1	10%	LTG
Large Non-tufted Graminoid	3	40%	LNG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
<b>Total understorey projective foliage cover</b>		<b>90%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
MH	<i>Myriophyllum papillosum</i>	Robust Water-milfoil
MH	<i>Persicaria decipiens</i>	Slender Knotweed
MH	<i>Lythrum hyssopifolia</i>	Small Loose-strife
MH	<i>Potamogeton tricarlinatus</i> s.l.	Floating Pondweed
SH	<i>Lemna disperma</i>	Common Duckweed
SH	<i>Azolla filiculoides</i>	Pacific Azolla
LTG	<i>Juncus ingens</i>	Giant Rush
LNG	<i>Schoenoplectus tabernaemontani</i>	River Club-sedge
LNG	<i>Phragmites australis</i>	Common Reed
LNG	<i>Typha orientalis</i>	Broad-leaf Cumbungi
LNG	<i>Typha domingensis</i>	Cumbungi
MTG	<i>Triglochin procerum</i> s.l.	Water Ribbons
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Pseudoraphis spinescens</i>	Spiny Mud-grass

#### Recruitment:

Episodic/Flood: desirable period of disturbance is every year

#### Organic Litter:

10% cover

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Salix cinerea</i>	Grey Sallow	high	high
MH	<i>Rorippa palustris</i>	Yellow Marsh-cress	high	high
MTG	<i>Polyopogon monspeliensis</i>	Annual Beard-grass	high	low
MNG	<i>Paspalum distichum</i>	Water Couch	high	high

# EVC 821: Tall Marsh - Victorian Riverina bioregion

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 823: Lignum Swampy Woodland

#### Description:

Understorey dominated by Lignum, typically of robust character and relatively dense (at least in patches), in association with a low Eucalypt and/or Acacia woodland to 15 m tall. The ground layer includes a component of obligate wetland flora that is able to persist even if dormant over dry periods.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus largiflorens</i>	50 cm	15/ha
<i>Eucalyptus camaldulensis</i>	70 cm	

#### Tree Canopy Cover:

% cover	Character Species	Common Name
20%	<i>Eucalyptus largiflorens</i>	Black Box
	<i>Eucalyptus camaldulensis</i>	River Red Gum

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	2	30%	MS
Small Shrub	1	5%	SS
Large Herb	2	1%	MH
Medium Herb*	8	10%	MH
Small or Prostrate Herb*	4	10%	SH
Medium to Small Tufted Graminoid*	2	5%	MTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Tiny Non-tufted Graminoid*	3	15%	MNG
Soil Crust	na	10%	S/C

\* Largely seasonal life form

**Total understorey projective foliage cover**

**80%**

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia stenophylla</i>	River Coobah
MS	<i>Muehlenbeckia florulenta</i>	Tangled Lignum
MS	<i>Chenopodium nitriaceum</i>	Nitre Goosefoot
MS	<i>Muehlenbeckia florulenta</i>	Tangled Lignum
SS	<i>Atriplex lindleyi</i>	Flat-top Saltbush
SS	<i>Sclerolaena muricata</i>	Five-spined Bassia
LH	<i>Rumex</i> spp.	Dock
MH	<i>Marsilea drummondii</i>	Common Nardoo
MH	<i>Brachyscome ciliaris</i>	Variable Daisy
MH	<i>Euchiton sphaericus</i>	Annual Cudweed
MH	<i>Ranunculus</i> spp.	Buttercup
LNG	<i>Eragrostis australasica</i>	Cane Grass
MTG	<i>Setaria jubiflora</i>	Warrego Summer-grass
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MTG	<i>Sporobolus mitchellii</i>	Short Rat-tail Grass
MTG	<i>Eragrostis setifolia</i>	Bristly Love-grass
MNG	<i>Eragrostis infecunda</i>	Southern Cane grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eleocharis pusilla</i>	Small Spike-sedge
SC	<i>Asperula gemella</i>	Twin-leaf Bedstraw

# EVC 823: Lignum Swampy Woodland - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

5% cover

**Logs:**

10m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
SH	<i>Phyla canescens</i>	Lippia	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 826: Plains Savannah

#### Description:

A structurally diverse vegetation unit which includes 'grassy openings' of a few to many hundreds of hectares, with a variable tree density ranging from a very sparse savanna to woodland. The relative absence of eucalypts is particularly characteristic, with *Allocasuarina luehmannii* and perhaps *Callitris gracilis* subsp. *murrayensis* to 10 m tall being the dominant trees. Widespread on the northern plains.

+ woodland only components (ignore when assessing grassland areas and standardise final score as appropriate)

#### Large trees<sup>+</sup>:

Species	DBH(cm)	#/ha
<i>Allocasuarina luehmannii</i>	40 cm	5/ha
<i>Callitris gracilis</i> ssp. <i>murrayensis</i>		

#### Tree Canopy Cover<sup>+</sup>:

% cover	Character Species	Common Name
10%	<i>Allocasuarina luehmannii</i>	Buloke
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree <sup>+</sup>		5%	IT
Small Shrub	2	5%	SS
Large Herb	3	5%	LH
Medium Herb*	6	20%	MH
Small or Prostrate Herb*	3	10%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	5	35%	MTG
Medium to Tiny Non-tufted Graminoid*	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	25%	S/C

\* Largely seasonal life form

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia pendula</i>	Boree
MS	<i>Acacia oswaldii</i>	Umbrella Wattle
SS	<i>Sclerolaena napiformis</i>	Turnip Copperburr
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Maireana decalvans</i>	Black Cotton-bush
SS	<i>Pimelea curviflora</i> s.s.	Curved Rice-flower
LH	<i>Ptilotus exaltatus</i>	Mulla Mulla
LH	<i>Eryngium ovium</i>	Blue Devil
LH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
LH	<i>Arthropodium fimbriatum</i>	Nodding Chocolate-lily
MH	<i>Calotis scabiosifolia</i>	Rough Burr-daisy
MH	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
MH	<i>Sida corrugata</i>	Variable Sida
MH	<i>Ptilotus macrocephalus</i>	Feather Heads
SH	<i>Maireana pentagona</i>	Hairy Bluebush
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Pogonolepis muelleriana</i>	Stiff Cup-flower
SH	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed
LTG	<i>Austrostipa blackii</i>	Crested Spear-grass
LTG	<i>Austrostipa gibbosa</i>	Spurred Spear-grass
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Austrostipa nodosa</i>	Knotty Spear-grass
MTG	<i>Whalleya proluta</i>	Rigid Panic
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass



# EVC 826: Plains Savannah - Victorian Riverina bioregion

## Recruitment:

Continuous

## Organic Litter:

5% cover

## Logs<sup>+</sup>:

5 m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	Boxthorn	high	high
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	low
LH	<i>Lepidium africanum</i>	Common Peppergrass	high	low
LH	<i>Salvia verbenaca</i>	Wild Sage	high	high
LH	<i>Echium plantagineum</i>	Patterson's curse	high	high
LH	<i>Sisymbrium irio</i>	London Rocket	high	high
LH	<i>Marrubium vulgare</i>	Horehound	high	high
LNG	<i>Avena fatua</i>	Wild Oat	high	high
MH	<i>Limonium sinuatum</i>	Notch-leaf Sea-lavender	high	high
MH	<i>Arctotheca calendula</i>	Cape Weed	high	high
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Oxalis pes-caprae</i>	Sour sob	high	high
MH	<i>Plantago coronopus</i>	Buck's-horn Plantain	high	high
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	high
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	high
MH	<i>Trifolium striatum</i>	Knotted Clover	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Hedynois cretica</i>	Cretan Hedynois	high	high
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MNG	<i>Avena barbata</i>	Bearded Oat	high	high
MNG	<i>Brachypodium distachyon</i>	False Brome	high	high
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	high
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	high
MTG	<i>Bromus diandrus</i>	Great Brome	high	high
MTG	<i>Critetion hystrix</i>	Mediterranean Barley-grass	high	high
MTG	<i>Critetion murinum</i>	Barley-grass	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	high
MTG	<i>Pentastichis airoides</i> ssp. <i>airoides</i>	False Hair-grass	high	low
MTG	<i>Poa bulbosa</i>	Bulbous Meadow-grass	high	high
MTG	<i>Romulea minutiflora</i>	Small-flower Onion-grass	high	high
MTG	<i>Romulea rosea</i>	Onion Grass	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	high
SH	<i>Medicago minima</i>	Little Medic	high	high
SH	<i>Medicago polymorpha</i>	Burr Medic	high	high
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina Bioregion

### EVC 826\_61: Treed Plains Savannah

#### Description:

A structurally diverse vegetation unit which includes 'grassy openings' of a few to many hundreds of hectares, with a variable tree density ranging from a very sparse savanna to woodland. The relative absence of eucalypts is particularly characteristic, with *Allocasuarina luehmannii* and perhaps *Callitris gracilis* subsp. *murrayensis* to 10 m tall being the dominant trees. Widespread on the northern plains.

#### Large Trees:

Species	DBH(cm)	#/ha
<i>Allocasuarina luehmannii</i>	40 cm	5 / ha
<i>Callitris gracilis</i> subsp. <i>murrayensis</i>	0 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Allocasuarina luehmannii</i>	Buloke
	<i>Callitris gracilis</i> subsp. <i>murrayensis</i>	Slender Cypress-pine

#### Understorey:

Lifeform	#Spp	%Cover	LF Code
Immature Canopy Tree		5%	IT
Small Shrub	2	5%	SS
Large Herb	3	5%	LH
Medium Herb*	6	20%	MH
Small or Prostrate Herb*	3	10%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-Tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	5	35%	MTG
Medium to Tiny Non-Tufted Graminoid	2	5%	MNG
Bryophytes/Lichens		10%	BL
Soil Crust		25%	S/C

\*Largely seasonal lifeform

# EVC 826\_61: Treed Plains Savannah

LF Code	Species typical of at least part of EVC range	Common Name
SS	<i>Maireana decalvans</i>	Black Cotton-bush
SS	<i>Pimelea curviflora</i> s.s.	Curved Rice-flower
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	E e <i>Sclerolaena napiformis</i>	Turnip Copperburr
LH	<i>Arthropodium fimbriatum</i>	Nodding Chocolate-lily
LH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
LH	<i>Eryngium ovinum</i>	Blue Devil
LH	<i>Ptilotus exaltatus</i>	Mulla Mulla
MH	<i>Calotis scabiosifolia</i>	Rough Burr-daisy
MH	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
MH	<i>Ptilotus macrocephalus</i>	Feather Heads
MH	<i>Sida corrugata</i>	Variable Sida
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed
SH	<i>Maireana pentagona</i>	Hairy Bluebush
SH	<i>Pogonolepis muelleriana</i>	Stiff Cup-flower
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
LTG	<i>Austrostipa blackii</i>	Crested Spear-grass
LTG	<i>Austrostipa gibbosa</i>	Spurred Spear-grass
LNG	<i>Various spp.</i>	
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MTG	<i>Austrostipa nodosa</i>	Knotty Spear-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Whalleya prolata</i>	Rigid Panic
MNG	<i>Various spp.</i>	

## Recruitment:

Continuous.

## Organic Litter:

5 % cover

## Logs:

5 m/0.1ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Lycium ferocissimum</i>	African Box-thorn	high	high
SH	<i>Medicago polymorpha</i>	Burr Medic	high	high
MTG	<i>Poa bulbosa</i>	Bulbous Meadow-grass	high	high
MTG	<i>Romulea minutiflora</i>	Small-flower Onion-grass	high	high
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	high
MH	<i>Plantago coronopus</i>	Buck's-horn Plantain	high	high
MH	<i>Limonium sinuatum</i>	Notch-leaf Sea-lavender	high	high
MH	<i>Arctotheca calendula</i>	Cape Weed	high	high
LNG	<i>Avena fatua</i>	Wild Oat	high	high
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	high
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	high
MTG	<i>Bromus diandrus</i>	Great Brome	high	high
MTG	<i>Hordeum hystrix</i>	Mediterranean Barley-grass	high	high
MTG	<i>Hordeum murinum</i> s.l.	Barley-grass	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	high
LH	<i>Marrubium vulgare</i>	Horehound	high	high
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	high

# EVC 826\_61: Treed Plains Savannah

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	high
MH	<i>Hedypnois cretica</i>	Cretan Hedypnois	high	high
MNG	<i>Avena barbata</i>	Bearded Oat	high	high
MNG	<i>Brachypodium distachyon</i>	False Brome	high	high
MTG	<i>Romulea rosea</i>	Onion Grass	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	high
LH	<i>Echium plantagineum</i>	Paterson's Curse	high	high
LH	<i>Sisymbrium irio</i>	London Rocket	high	high
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
LH	<i>Lepidium africanum</i>	Common Peppergrass	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Trifolium striatum</i>	Knotted Clover	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MTG	<i>Pentstemon aegyptius</i> subsp. <i>aegyptius</i>	False Hair-grass	high	low
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	low
SH	<i>Medicago minima</i>	Little Medic	high	high
LH	<i>Salvia verbenaca</i>	Wild Sage	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 829: Chenopod Grassland

#### Description:

Open to sparse shrubland with a more or less continuous tussock grass sward found on heavy somewhat sodic clay plains fringing the active floodplains of major watercourses such as the Loddon and Avoca Rivers.

#### Life Forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	2	20%	MS
Small Shrub	6	30%	SS
Prostrate Shrub	2	1%	PS
Large Herb	2	5%	LH
Medium Herbs*	4	10%	MH
Small or Prostrate Herbs*	4	5%	SH
Medium to Small Tufted Graminoid	3	20%	MTG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

\* Largely seasonal life form

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Lycium australe</i>	Australian Box-thorn
MS	<i>Nitraria billardierei</i>	Nitre-bush
SS	<i>Maireana aphylla</i>	Leafless Bluebush
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Minuria cunninghamii</i>	Bush Minuria
SS	<i>Rhagodia spinescens</i>	Hedge Saltbush
PS	<i>Sclerochlamys brachyptera</i>	Short-wing Saltbush
PS	<i>Atriplex semibaccata</i>	Berry Saltbush
LH	<i>Podolepis canescens</i>	Grey Podolepis
LH	<i>Leiocarpa panaetioides</i>	Woolly Buttons
MH	<i>Rhodanthe stuartiana</i>	Clay Sunray
MH	<i>Teucrium racemosum</i> s.s.	Grey Germander
MH	<i>Maireana excavata</i>	Bottle Bluebush
MH	<i>Sida corrugata</i>	Variable Sida
SH	<i>Hyalosperma glutinosum</i> ssp. <i>glutinosum</i>	Golden Sunray
SH	<i>Hyalosperma semisterile</i>	Orange Sunray
SH	<i>Rhodanthe pygmaea</i>	Pygmy Sunray
SH	<i>Pogonolepis muelleriana</i>	Stiff Cup-flower
LTG	<i>Austrostipa aristiglumis</i>	Plump Spear-grass
MTG	<i>Austrostipa</i> spp.	Spear-grass
MTG	<i>Whalleya proluta</i>	Rigid Panic
MTG	<i>Enteropogon acicularis</i>	Spider Grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass

#### Recruitment:

Continuous

#### Organic Litter:

5% cover

# EVC 829: Chenopod Grassland - Victorian Riverina bioregion

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Carthamus lanatus</i>	Saffron Thistle	high	high
MH	<i>Limonium lobatum</i>	Winged Sea-lavender	high	high
MH	<i>Hedypnois cretica</i>	Cretan Hedypnois	high	high
MH	<i>Arctotheca calendula</i>	Cape Weed	high	high
MH	<i>Romulea rosea</i>	Onion Grass	high	high
SH	<i>Moraea setifolia</i>	Thread Iris	high	high
SH	<i>Medicago</i> spp.	Medic	high	high
MTG	<i>Critesion murinum</i> subsp. <i>leporinum</i>	Wall Barley-grass	high	high
MNG	<i>Bromus madritensis</i>	Madrid Brome	high	high
MNG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 882: Shallow Sands Woodland (*syn.* Pine Box Woodland)

#### Description:

Woodland or open-forest to 15 m tall, with a sparse shrub layer of heathy, ericoid shrubs and a species-rich ground cover dominated by grasses and annual herbs. Typically it occurs between the heavier soils of the plains and the deep-sand aeolian dunefields which overlay these plains, but also occurs on broader areas of plains covered by shallow fluvial, outwash or aeolian sands overlaying drainage-impeding clays.

#### Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	15 / ha
<i>Allocasuarina luehmannii</i>	40 cm	
<i>Callitris glaucophylla</i>	40 cm	

#### Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Allocasuarina luehmannii</i>	Buloke
	<i>Callitris glaucophylla</i>	White Cypress-pine

#### Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	4	15%	MS
Small Shrub	3	10%	SS
Prostrate Shrub	1	5%	PS
Medium Herb	10	20%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	13	30%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Acacia montana</i>	Mallee Wattle
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia verniciflua</i>	Varnish Wattle
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
SS	<i>Pimelea curviflora</i> s.s.	Curved Rice-flower
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Wahlenbergia luteola</i>	Yellowish Bluebell
MH	<i>Acaena echinata</i>	Sheep's Burr
SH	<i>Daucus glochidiatus</i>	Australian Carrot
SH	<i>Drosera whittakeri</i> ssp. <i>aberrans</i>	Scented Sundew
LTG	<i>Dichelachne crinita</i>	Long-hair Plume-grass
MTG	<i>Austrodanthonia geniculata</i>	Kneed Wallaby-grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Lomandra multiflora</i> ssp. <i>multiflora</i>	Many-flowered Mat-rush
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

# EVC 882: Shallow Sands Woodland (*syn.* Pine Box Woodland) - Victorian Riverina bioregion

**Recruitment:**

Continuous

**Organic Litter:**

20 % cover

**Logs:**

15 m/0.1 ha.

**Weediness:**

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Centaurium tenuiflorum</i>	Slender Centaury	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Riverina bioregion

### EVC 888: Plains Saltmarsh

#### Description:

Typically species-poor samphire dominated low shrubland to 0.5 m tall, or locally variously herbland or grassland. Occurs in seasonally or intermittently waterlogged shallow depressions on salinised heavy grey clay soils.

#### Life Forms:

Life form	#Spp	%Cover	LF code
Small Shrub	1	10%	SS
Prostrate Shrub	1	5%	PS
Medium Herb	3	15%	MH
Small or Prostrate Herb	2	10%	SH
Medium to Small Tufted Graminoid	1	5%	MTG
Medium to Tiny Non-tufted Graminoid	1	10%	MNG
Soil Crust	na	10%	S/C
<b>Total understorey projective foliage cover</b>		<b>60%</b>	

LF Code	Species typical of at least part of EVC range	Common Name
SS	<i>Halosarcia pergranulata</i>	Blackseed Glasswort
SS	<i>Halosarcia syncarpa</i>	Fused Glasswort
PS	<i>Wilsonia rotundifolia</i>	Round-leaf Wilsonia
MH	<i>Sarcocornia quinqueflora</i>	Beaded Glasswort
MH	<i>Samolus repens</i>	Creeping Brookweed
MH	<i>Spergularia</i> sp. 3	Salt Sea-spurrey
SH	<i>Selliera radicans</i>	Shiny Swamp-mat
SH	<i>Angianthus preissianus</i>	Salt Angianthus
SH	<i>Apium prostratum</i> ssp. <i>prostratum</i>	Annual Celery
MTG	<i>Puccinellia stricta</i> var. <i>perlaxa</i>	Plains Saltmarsh-grass
MNG	<i>Distichlis distichophylla</i>	Australian Salt-grass

#### Recruitment:

Continuous

#### Organic Litter:

10% cover

#### Weediness:

There are no consistent weeds in this EVC.



# EVC 888: Plains Saltmarsh - Victorian Riverina bioregion

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