

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 3: Damp Sands Herb-rich Woodland

Description:

A low, grassy or bracken-dominated eucalypt forest or open woodland to 15 m tall with a large shrub layer and ground layer rich in herbs, grasses, and orchids. Occurs mainly on flat or undulating areas on moderately fertile, relatively well-drained, deep sandy or loamy topsoils over heavier subsoils (duplex soils).

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-barked Manna-gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	4	25%	MS
Small Shrub	7	15%	SS
Large Herb	1	1%	LH
Medium Herb	8	10%	MH
Small or Prostrate Herb	3	1%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	7	10%	MTG
Medium to Tiny Non-tufted Graminoid	4	10%	MNG
Hummock Grass	1	15%	HG
Tiny Tufted Graminoid*	2	1%	TTG
Ground Fern	1	10%	GF
Scrambler or Climber	2	5%	SC
Bryophytes/Lichens	na	10%	BL

* Largely seasonal life form

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Callitris rhomboidea</i>	Oyster Bay Pine
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
SS	<i>Dillwynia glaberrima</i>	Smooth Parrot-pea
SS	<i>Hibbertia virgata</i>	Twiggy Guinea-flower
SS	<i>Leucopogon costatus</i>	Twiggy Beard-heath
SS	<i>Hibbertia sericea</i> s.l.	Silky Guinea-flower
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Burchardia umbellata</i>	Milkmaids
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Drosera glanduligera</i>	Scarlet Sundew
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Neurachne alopecuroides</i>	Fox-tail Mulga-grass
MTG	<i>Lepidosperma laterale</i>	Variable Sword-sedge
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
MTG	<i>Austrodanthonia geniculata</i>	Knead Wallaby-grass
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis polygyna</i>	Wiry Centrolepis
HG	<i>Triodia scariosa</i>	Porcupine Grass
EP	<i>Amyema pendula</i>	Drizzling Mistletoe
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel

EVC 3: Damp Sands Herb-rich Woodland - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

40 % 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>Cirsium vulgare</i>	Spear Thistle	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>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
LNG	<i>Avena fatua</i>	Wild Oat	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
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MNG	<i>Lagurus ovatus</i>	Hare's-tail Grass	high	low
MNG	<i>Aira caryophyllea</i>	Silvery 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>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Avena barbata</i>	Bearded Oat	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 6: Sand Heathland

Description:

Treeless heathland (or with scattered emergent mallee-form eucalypts) occurring on deep infertile sands. Consists of a low, dense heathy shrub layer and a number of sedges and sedge-like species. Grasses and herbs are notably absent or infrequent.

Life Forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	7	30%	MS
Small Shrub	8	25%	SS
Prostrate Shrub	2	5%	PS
Medium Herb	1	1%	MH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	4	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	15%	MNG
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		65%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	k <i>Allocasuarina mackliniana</i>	Western Sheoak
SS	<i>Hibbertia sericea</i> s.l.	Silky Guinea-flower
SS	<i>Hibbertia virgata</i>	Twiggy Guinea-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	r <i>Leucopogon virgatus</i> var. <i>brevifolius</i>	Common Beard-heath
PS	<i>Styphelia adscendens</i>	Golden Heath
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lomandra sororia</i>	Small Mat-rush
MTG	<i>Lomandra nana</i>	Dwarf Mat-rush
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
MNG	<i>Lepidobolus drapetocoleus</i>	Scale Shedder
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis

Recruitment:

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

Organic Litter:

20% cover

Weediness:

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

EVC 6: Sand Heathland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 13: Brackish Sedgeland

Description:

Sedgeland dominated by moisture-dependent sedges with a grassy or herbaceous ground-layer. Sedges present are usually indicative of saline sites, but ground-layer is depauperate with few if any true halophytic species.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	1	5%	LH
Medium Herb	5	10%	MH
Small or Prostrate Herb*	5	5%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	4	10%	MTG
Tiny Tufted Graminoid*	3	5%	TTG
Medium to Tiny Non-tufted Graminoid	3	50%	MNG

*largely seasonal life form

Total understorey projective foliage cover

90%

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
LH	<i>Senecio glomeratus</i>	Annual Fireweed
MH	<i>Samolus repens</i>	Creeping Brookweed
MH	<i>Lobelia anceps</i>	Angled Lobelia
MH	<i>Utricularia tenella</i>	Pink Bladderwort
MH	<i>Leptorhynchos squamatus</i>	Scaly Buttons
SH	<i>Selliera radicans</i>	Shiny Swamp-mat
SH	<i>Stylidium inundatum</i>	Hundreds and Thousands
SH	<i>Sebaea albidiflora</i>	White Sebaea
SH	<i>Ranunculus robertsonii</i>	Slender Buttercup
LTG	<i>Gahnia filum</i>	Chaffy Saw-sedge
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Lomandra sororia</i>	Small Mat-rush
MTG	<i>Lomandra micrantha</i> s.l.	Small-flower Mat-rush
MTG	<i>Juncus bufonius</i>	Toad Rush
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Centrolepis polygyna</i>	Wiry Centrolepis
MNG	<i>Leptocarpus brownii</i>	Coarse Twine-rush
MNG	<i>Hemarthria uncinata</i> var. <i>uncinata</i>	Mat Grass
MNG	<i>Baumea juncea</i>	Bare Twig-sedge
MNG	<i>Distichlis distichophylla</i>	Australian Salt-grass

Recruitment:

Episodic/Flood: desirable period of disturbance is every five years

Organic Litter:

10% cover

Weediness:

There are no consistent weeds in this EVC.

EVC 13: Brackish Sedgeland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 19: Riparian Shrubland

Description:

Diverse, medium to tall shrubland to 5 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. 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 native species which survive on the bare sands or in rock crevices.

Life forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	6	40%	MS
Large Herb	2	5%	LH
Medium Herb	6	10%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	3	10%	LTG
Medium to Small Tufted Graminoid	3	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	1%	MNG
Ground Fern	2	5%	GF
Scrambler or Climber	2	5%	SC
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum lanigerum</i>	Woolly Tea-tree
MS	<i>Hymenanthera dentata</i> s.l.	Tree Violet
LH	<i>Persicaria decipiens</i>	Slender Knotweed
MH	<i>Hydrocotyle hirta</i>	Hairy Pennywort
MH	<i>Poranthera microphylla</i>	Small Poranthera
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Poa labillardierei</i>	Common Tussock-grass
LTG	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
MTG	<i>Lepidosperma laterale</i>	Variable Sword-sedge
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Blechnum nudum</i>	Fishbone Water-fern
SC	<i>Clematis microphylla</i>	Small-leaved Clematis

Recruitment:

Episodic/flood – desirable period between flood events is 5 years.

Organic Litter:

20% cover

Logs:

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

EVC 19: Riparian Shrubland – Wimmera bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Rosa rubiginosa</i>	Sweet Briar	low	high
MS	<i>Rubus fruticosus</i> spp. agg.	Blackberry	high	high
LH	<i>Conium maculatum</i>	Hemlock	high	high
LH	<i>Conyza bonariensis</i>	Flaxleaf Fleabane	high	low
LH	<i>Carduus tenuiflorus</i>	Winged Thistle	high	high
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Rumex crispus</i>	Curled Dock	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Prunella vulgaris</i>	Self-heal	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Euphorbia peplus</i>	Petty Spurge	high	low
MH	<i>Silene gallica</i>	French Catchfly	high	low
MH	<i>Petrorhagia nanteuillii</i>	Childling Pink	high	low
MH	<i>Gamochaeta purpurea</i> s.l.	Purple Cudweed	high	low
MH	<i>Centaureum erythraea</i>	Common Centaury	high	low
SH	<i>Modiola caroliniana</i>	Red-flower Mallow	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Cyperus eragrostis</i>	Drain Flat-sedge	high	high
MTG	<i>Bromus catharticus</i>	Prairie 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
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MNG	<i>Aira caryophylla</i>	Silvery Hair-grass	high	low
SC	<i>Vinca major</i>	Blue Periwinkle	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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 a suite of fern species.

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 melliodora</i>	Yellow 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	3	5%	MS
Small Shrub	3	5%	SS
Prostrate Shrub	2	1%	PS
Large Herb	3	10%	LH
Medium Herb	16	30%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	13	30%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Scrambler or Climber	1	1%	SC
Ground Fern	1	5%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

EVC 22: Grassy Dry Forest - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia paradoxa</i>	Hedge Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
MS	<i>Daviesia ulicifolia</i>	Gorse Bitter-pea
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Acacia myrtifolia</i>	Myrtle Wattle
SS	<i>Hovea heterophylla</i>	Common Hovea
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Acacia aculeatissima</i>	Thin-leaf Wattle
PS	<i>Acrotriche serrulata</i>	Honey-pots
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Hypericum gramineum</i>	Small St John's Wort
MH	<i>Geranium solanderi</i> s.l.	Austral Cranesbill
SH	<i>Daucus glochidiatus</i>	Australian Carrot
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Phyllangium divergens</i>	Wiry Mitrewort
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Joycea pallida</i>	Silvertop Wallaby-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
EP	<i>Amyema miquelii</i>	Box Mistletoe
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
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>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Galium divaricatum</i>	Slender Bedstraw	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Bromus madritensis</i>	Madrid Brome	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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	9	45%	MS
Small Shrub	2	10%	SS
Prostrate Shrub	1	1%	PS
Large Herb	2	1%	LH
Medium Herb	2	5%	MH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	5	10%	MTG
Bryophytes/Lichens	na	20%	BL
Soil Crust	na	10%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Monotoca scoparia</i>	Prickly Broom-heath
MS	<i>Correa reflexa</i>	Common Correa
MS	<i>Cassinia longifolia</i>	Shiny Cassinia
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
LH	<i>Wahlenbergia gracilis</i> s.l.	Sprawling Bluebell
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
LTG	<i>Xanthorrhoea australis</i>	Austral Grass-tree
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Lepidosperma laterale</i>	Variable Sword-sedge
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush

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

EVC 28: Rocky Outcrop Shrubland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 48: Heathy Woodland

Description:

Spans a variety of geologies but is generally associated with nutrient-poor soils including deep uniform sands (aeolian or outwash) and Tertiary sand/clay which has been altered to form quartzite gravel. Eucalypt-dominated low woodland to 10 m tall lacking a secondary tree layer and generally supporting a diverse array of narrow or ericoid-leaved shrubs except where frequent fire has reduced this to a dense cover of bracken. Geophytes and annuals can be quite common but the ground cover is normally fairly sparse.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus arenacea</i>	Desert Stringybark

Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	8	40%	MS
Small Shrub	9	25%	SS
Prostrate Shrub	2	5%	PS
Large Herb	2	1%	LH
Medium Herb	6	5%	MH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	7	10%	MTG
Medium to Tiny Non-tufted Graminoid	3	10%	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>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
MS	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	<i>Hibbertia virgata</i>	Twiggy Guinea-flower
SS	<i>Leucopogon virgatus</i> var. <i>brevifolius</i>	Common Beard-heath
PS	<i>Styphelia adscendens</i>	Golden Heath
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Glossodia major</i>	Wax-lip Orchid
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Xanthorrhoea minor</i> ssp. <i>lutea</i>	Small Grass-tree
MTG	<i>Lomandra sororia</i>	Small Mat-rush
MTG	<i>Lomandra juncea</i>	Desert Mat-rush
MTG	<i>Dianella revoluta</i> s.s.	Black-anther Flax-lily
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
MNG	<i>Lepidobolus drapetocoleus</i>	Scale Shedder
TTG	<i>Schoenus breviculmis</i>	Matted Bog-sedge
SC	<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel

EVC 48: Heathy Woodland - Wimmera bioregion

Recruitment:

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

Organic Litter:

40 % cover

Logs:

15 m/0.1 ha.

Weediness:

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

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 53: Swamp Scrub

Description:

Closed scrub to 8 m tall at low elevations on alluvial deposits along streams or on poorly drained sites with high nutrient and water availability. Soils vary from organic loams to fine silts and peats which are inundated during the wetter months of the year and is dominated by Woolly Tea-tree *Leptospermum lanigerum* which often forms a dense impenetrable thicket, out-competing other species. Emergent trees (eg. Swamp Gum *Eucalyptus ovata*) may some times be present. Where light penetrates to ground level, a moss/lichen/liverwort herbaceous ground cover is often present.

Canopy Cover:

%cover	Character Species	Common Name
50%	<i>Leptospermum lanigerum</i>	Woolly Tea-tree
	<i>Melaleuca squarrosa</i>	Scented Paperbark
	<i>Acacia melanoxylon</i>	Blackwood
	<i>Acacia mearnsii</i>	Black Wattle

Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	2	10%	MS
Small Shrub	1	1%	SS
Large Herb	5	5%	LH
Medium Herb	9	15%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	2	15%	LTG
Large Non-tufted Graminoid	2	5%	LNG
Medium to Small Tufted Graminoid	4	15%	MTG
Medium to Tiny Non-tufted Graminoid	3	15%	MNG
Ground Fern	2	5%	GF
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens	na	20%	BL

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Ozothamnus ferrugineus</i>	Tree Everlasting
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
SS	<i>Rubus parvifolius</i>	Small-leaf Bramble
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Lagenophora stipitata</i>	Common Bottle-daisy
MH	<i>Viola hederacea</i> sensu Willis (1972)	Ivy-leaf Violet
SH	<i>Lobelia pedunculata</i> s.l.	Matted Pratia
SH	<i>Hydrocotyle sibthorpioides</i>	Shining Pennywort
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Gahnia clarkei</i>	Tall Saw-sedge
LTG	<i>Juncus pallidus</i>	Pale Rush
LTG	<i>Carex appressa</i>	Tall Sedge
MTG	<i>Juncus pauciflorus</i>	Loose-flower Rush
MNG	<i>Poa tenera</i>	Slender Tussock-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken

EVC 53: Swamp Scrub - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

40 % cover

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>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
MH	<i>Prunella vulgaris</i>	Self-heal	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 55: Plains Grassy Woodland

Description:

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

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 Tree		5%	IT
Medium Shrub	1	5%	MS
Small Shrub	2	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	1	1%	LH
Medium Herb	18	25%	MH
Small or Prostrate Herb	4	10%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	15	40%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code

Species typical of at least part of EVC range

Common Name

SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Pimelea curviflora s.l.</i>	Curved Rice-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
MH	<i>Hypericum gramineum</i>	Small St John's Wort
MH	<i>Drosera peltata ssp. peltata</i>	Pale Sundew
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Leptorhynchus squamatus</i>	Scaly Buttons
SH	<i>Drosera whittakeri ssp. aberrans</i>	Scented Sundew
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
LTG	<i>Austrostipa pubinodis</i>	Tall Spear-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Tricoryne elatior</i>	Yellow Rush-lily
MTG	<i>Caesia calliantha</i>	Blue Grass-lily
MNG	<i>Microtis unifolia</i>	Common Onion-orchid
MNG	<i>Microlaena stipoides var. stipoides</i>	Weeping Grass
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Convolvulus erubescens spp. agg.</i>	Pink Bindweed

EVC 55: Plains Grassy Woodland - Wimmera 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 campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Trifolium dubium</i>	Suckling Clover	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Briza maxima</i>	Large 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>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Cynosurus echinatus</i>	Rough Dog's-tail	high	low
MNG	<i>Aira</i> spp.	Hair Grass	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 56: Floodplain Riparian Woodland

Description:

An open eucalypt woodland 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
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	3	10%	MS
Large Herb	5	10%	LH
Medium Herb	4	10%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	2	15%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	20%	MTG
Medium to Tiny Non-tufted Graminoid	1	5%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia oswaldii</i>	Umbrella Wattle
MS	<i>Pittosporum angustifolium</i>	Weeping Pittosporum
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
SS	<i>Pimelea humilis</i>	Common Rice-flower
LH	<i>Senecio glomeratus</i>	Annual Fireweed
MH	<i>Rumex brownii</i>	Slender Dock
MH	<i>Acaena echinata</i>	Sheep's Burr
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Crassula helmsii</i>	Swamp Crassula
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Carex tereticaulis</i>	Sedge Rush
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Austrodanthonia penicillata</i>	Slender Wallaby-grass

Recruitment:

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

Organic Litter:

40 % cover

Logs:

30 m/0.1 ha.

EVC 56: Floodplain Riparian Woodland - Wimmera bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Rosa rubiginosa</i>	Sweet Briar	high	high
LH	<i>Rumex conglomeratus</i>	Clustered Dock	high	low
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Rumex crispus</i>	Curled Dock	high	low
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	low
LH	<i>Aster subulatus</i>	Aster-weed	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Plantago major</i>	Greater Plantain	high	low
MH	<i>Brassica fruticulosa</i>	Twiggy Turnip	high	high
MH	<i>Atriplex prostrata</i>	Hastate Orache	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Cyperus eragrostis</i>	Drain Flat-sedge	high	high
MTG	<i>Bromus catharticus</i>	Prairie Grass	high	low
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	low
MNG	<i>Paspalum distichum</i>	Water Couch	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 61: Box Ironbark Forest

Description:

Occurs in low rainfall areas 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
30%	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus tricarpa</i>	Red Ironbark
	<i>Eucalyptus polyanthemus</i>	Red Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	7	25%	MS
Small Shrub	4	5%	SS
Prostrate Shrub	2	1%	PS
Medium Herb	9	20%	MH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	8	15%	MTG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C
Total understorey projective foliage cover		85%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
MS	<i>Acacia genistifolia</i>	Spreading Wattle
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
SS	<i>Hibbertia exutiacies</i>	Spiky Guinea-flower
SS	<i>Pultenaea largiflorens</i>	Twiggy Bush-pea
SS	<i>Lissanthe strigosa</i>	Peach Heath
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Veronica plebeia</i>	Trailing Speedwell
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
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
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

EVC 61: Box Ironbark Forest - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

20 % cover

Logs:

20 m/0.1 ha.

Weediness:

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

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 65: Sedge-rich Woodland

Description:

Occurs in shallow depressions in flatter, poorly drained areas. The vegetation is an open woodland to 15 m tall, with shrubs and understorey trees uncommon, and sedges predominating in the ground layer. Herbs typical of inundated environments are present, but also grass, herb and geophyte species may also be common.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Allocasuarina luehmannii</i>	Buloke

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	5%	MS
Small Shrub	2	1%	SS
Large Herb	1	5%	LH
Medium Herb	10	20%	MH
Small or Prostrate Herb	2	5%	SH
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	13	30%	MTG
Medium to Tiny Non-tufted Graminoid	3	15%	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>Hakea rugosa</i>	Dwarf Hakea
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Senecio tenuiflorus</i>	Narrow-leaf Groundsel
MH	<i>Utricularia dichotoma</i> s.l.	Fairies' Aprons
MH	<i>Drosera peltata</i> ssp. <i>peltata</i>	Pale Sundew
MH	<i>Lagenophora huegelii</i>	Coarse Lagenophora
MH	<i>Leptorhynchos squamatus</i>	Scaly Buttons
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Myriocephalus rhizocephalus</i>	Woolly-heads
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Lachnagrostis filiformis</i> var. <i>filiformis</i>	Common Blown-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MNG	<i>Chorizandra enodis</i>	Black Bristle-sedge
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis glabra</i>	Smooth Centrolepis
TTG	<i>Aphelia gracilis</i>	Slender Aphelia
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

EVC 65: Sedge-rich Woodland - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

10 % 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
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Cicendia filiformis</i>	Slender Cicendia	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MTG	<i>Romulea rosea</i>	Onion 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>Juncus capitatus</i>	Capitate Rush	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low
TTG	<i>Isolepis hystrix</i>	Awned Club-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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 luehmannii</i>	40 cm	
<i>Callitris gracilis</i> subsp. <i>murrayensis</i>	40 cm	

Tree Canopy Cover:

% cover	Character Species	Common Name
20%	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine
	<i>Allocasuarina luehmannii</i>	Buloke
	<i>Eucalyptus porosa</i>	Black Mallee-box
	<i>Eucalyptus silvestris</i>	Woodland Box
	<i>Eucalyptus microcarpa</i>	Grey Box

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	8	25%	MTG
Medium to Tiny Non-tufted Graminoid	1	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		70%	

Recruitment:

Continuous

Organic Litter:

15% cover

Logs:

20m/0.1 ha.

EVC 66: Low Rises Woodland - Wimmera bioregion

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

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	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
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	low
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

Wimmera 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	8 / ha
<i>Allocasuarina</i> spp.	50 cm	

Tree Canopy Cover:

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

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	5%	MS
Small Shrub	3	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	15	20%	MH
Small or Prostrate Herb	5	10%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	12	20%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

Recruitment:

Continuous

Organic Litter:

10 % cover

Logs:

15 m/0.1 ha.

EVC 67: Alluvial Terraces Herb-rich Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
MS	<i>Acacia genistifolia</i>	Spreading Wattle
SS	<i>Lissanthe strigosa</i> ssp. <i>subulata</i>	Peach Heath
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Dillwynia cinerascens</i> s.l.	Grey Parrot-pea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Cynoglossum suaveolens</i>	Sweet Hound's-tongue
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Daucus glochidiatus</i>	Australian Carrot
MH	<i>Cymbonotus preissianus</i>	Austral Bear's-ears
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Drosera whittakeri</i> ssp. <i>aberrans</i>	Scented Sundew
SH	<i>Cymbonotus preissianus</i>	Austral Bear's-ear
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	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>Arctotheca calendula</i>	Cape Weed	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Cicendia quadrangularis</i>	Square Cicendia	high	low
MH	<i>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
MH	<i>Galium murale</i>	Small Goosegrass	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
MH	<i>Galium divaricatum</i>	Slender Bedstraw	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
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
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Vulpia ciliata</i>	Fringed Fescue	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 68: Creekline Grassy Woodland

Description:

Grass-dominated eucalypt woodland to 15 m tall with a range of amphibious herbs. Occurs along banks and adjacent wet flats of smaller intermittent creeks on coarse sands and stony alluvial soils and on the floodplains of larger rivers, in areas where annual rainfall is greater than 500 mm per annum.

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
Medium Shrub	2	10%	MS
Small Shrub	2	1%	SS
Medium Herb	5	10%	MH
Small or Prostrate Herb	1	1%	SH
Large Tufted Graminoid	3	20%	LTG
Medium to Small Tufted Graminoid	6	25%	MTG
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		75%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia retinodes</i> var. <i>retinodes</i>	Wirilda
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Hymenanthera dentata</i> s.l.	Tree Violet
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
LTG	<i>Austrostipa bigeniculata</i>	Kneed Spear-grass
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Carex tereticaulis</i>	Sedge Rush
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge
MTG	<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Striped Wallaby-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

Recruitment:

Continuous

Organic Litter:

40% cover

Logs:

20m/0.1 ha

EVC 68: Creekline Grassy Woodland - Wimmera bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MNG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Romulea rosea</i>	Onion Grass	high	low
MNG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Briza minor</i>	Lesser 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

Wimmera bioregion

EVC 69: Metamorphic Slopes Shrubby Woodland

Description:

Occurs on rocky slopes of contact metamorphosed ridges adjacent to granitic plutons. Slopes have stony soils and fractured bedrock resulting in high permeability to water and low effective rainfall. A very low open woodland to 8 m tall with a dense layer of medium to large shrubs. Ground layer can be sparse with scattered grasses, forbs and low shrubs. The presence of geophytes in the ground stratum indicates seasonally moist soil conditions.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus polyanthemus</i>	Red Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum

Understorey:

Life form	#Spp	%Cover	LF code
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	7	25%	MS
Small Shrub	3	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	2	5%	LH
Medium Herb	11	20%	MH
Small or Prostrate Herb*	2	1%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	7	15%	MTG
Ground Fern	1	5%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

EVC 69: Metamorphic Slopes Shrubby Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Allocasuarina verticillata</i>	Drooping Sheoke
MS	<i>Acacia euthycarpa</i>	Wallowa
MS	<i>Ozothamnus obcordatus</i>	Grey Everlasting
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	<i>Pultenaea prostrata</i>	Silky Bush-pea
SS	<i>Hibbertia exutiacies</i>	Spiky Guinea-flower
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Gonocarpus elatus</i>	Tall Raspwort
MH	<i>Stuartina muelleri</i>	Spoon Cudweed
MH	<i>Rhodanthe laevis</i>	Smooth Sunray
SH	<i>Millotia muelleri</i>	Common Bow-flower
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Siloxerus multiflorus</i>	Small Wrinklewort
SH	<i>Calandrinia calyptata</i>	Pink Purslane
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

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 glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Parentucellia latifolia</i>	Red Bartsia	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
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 70: Hillcrest Herb-rich Woodland

Description:

Restricted to low rainfall areas and occurs on broad, flat hilltops and ridgelines and upper slopes of undulating rises and rolling hills at low elevations. The flatness of the ridgetops allows for the formation of deeper soils derived from Ordovician sediments and together with clayey sub-soils found in pockets in fractured sedimentary rock, results in better growing conditions than on the surrounding slopes. The overstorey is sparse and consists of low spreading eucalypts to 10 m tall. The medium shrub layer is usually absent while the ground layer has a diverse array of grasses and herbs partly due to protection offered by the easterly aspect.

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 microcarpa</i>	Grey Box
	<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	2	1%	SS
Large Herb	4	10%	LH
Medium Herb	14	20%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	12	30%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

EVC 70: Hillcrest Herb-rich Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia implexa</i>	Lightwood
T	<i>Allocasuarina verticillata</i>	Drooping Sheoak
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
LH	<i>Wahlenbergia stricta</i>	Tall Bluebell
LH	<i>Wahlenbergia luteola</i>	Bronze Bluebell
MH	<i>Xerochrysum viscosum</i>	Shiny Everlasting
MH	<i>Stackhousia monogyna</i>	Creamy Stackhousia
MH	<i>Gonocarpus elatus</i>	Tall Raspswort
MH	<i>Pelargonium rodneyanum</i>	Magenta Stork's-bill
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Kennedia prostrata</i>	Running Postman
SH	<i>Drosera whittakeri</i> ssp. <i>aberrans</i>	Scented Sundew
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Themeda triandra</i>	Kangaroo Grass
GF	<i>Cheilanthes austrotenuifolia</i>	Green Rock-fern
GF	<i>Cheilanthes sieberi</i> ssp. <i>sieberi</i>	Narrow Rock-fern
EP	<i>Amyema miquelii</i>	Box Mistletoe
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

Recruitment:

Continuous

Organic Litter:

20 % cover

Logs:

15 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Carduus tenuiflorus</i>	Winged Thistle	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Galium murale</i>	Small Goosegrass	high	low
MH	<i>Parentucellia latifolia</i>	Red Bartsia	high	low
MH	<i>Arctotheca calendula</i>	Cape Weed	high	low
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
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MNG	<i>Avena barbata</i>	Bearded Oat	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Bromus madritensis</i>	Madrid Brome	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 71: Hills Herb-rich Woodland

Description:

A dry, open eucalypt woodland to 15 m tall often with a sparse shrub layer. The understorey is dominated by a carpet of herbs and grasses. Soils are generally shallow but fertile, and outcropping rock is not uncommon. This seasonally dry environment is favourable for annual herbs, with the fertile nature of the various geologies also supporting perennial herbs. Landform can vary from relatively flat ground to ridge tops on sedimentary sandstones (along seams of mineral-rich sandstone) to undulating, rounded, granite hill landforms.

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> <i>Eucalyptus goniacalyx</i> s.l.	Yellow Box Bundy

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	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	1	5%	LH
Medium Herb	20	30%	MH
Small or Prostrate Herb	7	10%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	15	25%	MTG
Medium to Tiny Non-tufted Graminoid	5	15%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

EVC 71: Hills Herb-rich Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Ozothamnus obcordatus</i>	Grey Everlasting
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Podolepis jaceoides</i> s.l.	Showy/Basalt Podolepis
MH	<i>Pelargonium rodneyanum</i>	Magenta Stork's-bill
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Hypericum gramineum</i>	Small St John's Wort
MH	<i>Poranthera microphylla</i>	Small Poranthera
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Drosera glanduligera</i>	Scarlet Sundew
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Siloxerus multiflorus</i>	Small Wrinklewort
LTG	<i>Austrostipa nodosa</i>	Knotty Spear-grass
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Neurachne alopecuroides</i>	Fox-tail Mulga-grass
MTG	<i>Pentapogon quadrifidus</i>	Five-awned Spear-grass
MTG	<i>Poa sieberiana</i>	Grey Tussock-grass
MTG	<i>Lomandra nana</i>	Dwarf Mat-rush
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
MNG	<i>Triglochin nanum</i>	Dwarf Arrowgrass
MNG	<i>Microtis unifolia</i>	Common Onion-orchid
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Aphelia pumilio</i>	Dwarf Aphelia
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

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>Parentucellia latifolia</i>	Red Bartsia	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	low
MH	<i>Galium divaricatum</i>	Slender Bedstraw	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
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 87: Lowan Sands Mallee

Description:

Low woodland to mallee shrubland to 7 m, commonly dominated by the stringybark mallee *Eucalyptus arenacea* with a heathy understorey. Found on deep to moderately deep siliceous sands of aeolian origin.

Tree Canopy Cover:

% cover	Character Species	Common Name
25%	<i>Eucalyptus arenacea</i>	Desert Stringybark
	<i>Eucalyptus incrassata</i>	Yellow Mallee

Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	5	35%	MS
Small Shrub	7	30%	SS
Prostrate Shrub	1	1%	PS
Medium Herb	4	10%	MH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	5	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		70%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
MS	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Callitris rhomboidea</i>	Oyster Bay Cypress-pine
MS	<i>Allocasuarina pusilla</i> s.l.	Dwarf Sheoak
SS	<i>Hibbertia sericea</i> s.l.	Silky Guinea-flower
SS	<i>Isopogon ceratophyllus</i>	Horny Cone-bush
SS	<i>Hibbertia virgata</i>	Twiggy Guinea-flower
SS	<i>Phyllota pleurandroides</i>	Heathy Phyllota
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Argentipallium obtusifolium</i>	Blunt Everlasting
MH	<i>Gonocarpus tetragynus</i>	Common Raspsort
MH	<i>Wahlenbergia gracilentia</i> s.l.	Annual Bluebell
LTG	<i>Xanthorrhoea australis</i>	Austral Grass-tree
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
MTG	<i>Neurachne alopecuroides</i>	Fox-tail Mulga-grass
MTG	<i>Lomandra juncea</i>	Desert Mat-rush
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
MNG	<i>Lepidobolus drapetocoleus</i>	Scale Shedder
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Schoenus breviculmis</i>	Matted Bog-sedge
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel
SC	<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel

EVC 87: Lowan Sands Mallee - Wimmera bioregion

Recruitment:

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

Organic Litter:

5% cover

Logs:

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

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MNG	<i>Ehrharta calycina</i>	Perennial Veldt Grass	high	high
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 88: Heathy Mallee

Description:

Low mallee shrubland to low open mallee shrubland to 4 m tall with a dense to moderately dense understorey of heathy shrubs. Occurs on infertile siliceous Lowan Sand on dunefields and sandplains. This is a prominent EVC in the central Big Desert.

Tree Canopy Cover:

% cover	Character Species	Common Name
25%	<i>Eucalyptus incrassata</i>	Yellow Mallee
	<i>Eucalyptus leptophylla</i>	Slender-leaf Mallee
	<i>Eucalyptus arenacea</i>	Desert Stringybark

Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	6	30%	MS
Small Shrub	7	20%	SS
Large Herb	2	1%	LH
Medium Herb	3	5%	MH
Hummock Grass	1	5%	HG
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	3	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		55%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Hakea mitchellii</i>	Desert Hakea
MS	<i>Leptospermum coriaceum</i>	Mallee Tea-tree
MS	<i>Babingtonia behrii</i>	Broom Baeckea
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Baeckea crassifolia</i>	Desert Baeckea
SS	<i>Stenanthemum leucophractum</i>	White Cryptandra
SS	<i>Cryptandra tomentosa</i>	Prickly Cryptandra
LH	<i>Helichrysum leucopsidium</i>	Satin Everlasting
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Goodenia robusta</i>	Woolly Goodenia
HG	<i>Triodia scariosa</i>	Porcupine Grass
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
MTG	<i>Lomandra juncea</i>	Desert Mat-rush
MTG	<i>Lomandra collina</i>	Pale Mat-rush
MNG	<i>Lepidobolus drapetocoleus</i>	Scale Shedder
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
TTG	<i>Schoenus breviculmis</i>	Matted Bog-sedge
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel
SC	<i>Billardiera cymosa</i> s.l.	Sweet Apple-berry

EVC 88: Heathy Mallee - Wimmera bioregion

Recruitment:

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

Organic Litter:

10% cover

Logs:

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

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MTG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	high
MTG	<i>Ehrharta calycina</i>	Perennial Veldt Grass	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 89: Dunefield Heathland

Description:

Treeless heathland or low shrubland to 2 m tall. Very scattered small mallee form trees may be present. In recently burnt stands (less than 20 years since fire) an open sub-shrub and ground stratum is also common. Occurs on deep siliceous sand on minor dunes and undulating sandplains where siliceous Lowan Sand of coastal origins has accumulated to some depth.

Life Forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	6	50%	MS
Small Shrub	6	20%	SS
Medium Herb	4	5%	MH
Hummock Grass	1	1%	HG
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	3	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		60%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
MS	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Callitris verrucosa</i>	Scrub Pine
MS	<i>Hakea mitchellii</i>	Desert Hakea
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Hibbertia virgata</i>	Twiggy Guinea-flower
SS	<i>Spyridium subochreatum</i> var. <i>subochreatum</i>	Velvet Spyridium
SS	<i>Leucopogon woodsii</i>	Nodding Beard-heath
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Podotheca angustifolia</i>	Sticky Heads
MH	<i>Comesperma calymega</i>	Blue-spike Milkwort
MH	<i>Argentipallium obtusifolium</i>	Blunt Everlasting
HG	<i>Triodia scariosa</i>	Porcupine Grass
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
MTG	<i>Lomandra juncea</i>	Desert Mat-rush
MTG	<i>Lomandra leucocephala</i> ssp. <i>robusta</i>	Woolly Mat-rush
MNG	<i>Lepidobolus drapetocoleus</i>	Scale Shedder
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
TTG	<i>Schoenus breviculmis</i>	Matted Bog-sedge
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel

Recruitment:

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

Organic Litter:

5% cover

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MTG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	high
MTG	<i>Ehrharta calycina</i>	Perennial Veldt Grass	high	high

EVC 89: Dunefield Heathland – Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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 sandstone ridges.

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

Tree Canopy Cover⁺:

%cover	Character Species	Common Name
15%	r <i>Eucalyptus wimmerensis</i> <i>Eucalyptus dumosa</i>	Wimmera Mallee-box Dumosa Mallee

Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	6	40%	MS
Small Shrub	5	20%	SS
Prostrate Shrub	1	5%	PS
Large Herb	2	1%	LH
Medium Herb	5	10%	MH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	6	15%	MTG
Scrambler or Climber	2	1%	SC
Bryophytes/Lichens	na	10%	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>Babingtonia behrii</i>	Broom Baeckea
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Allocasuarina muelleriana ssp. muelleriana</i>	Slaty Sheoak
SS	<i>Hibbertia fasciculata var. prostrata</i>	Bundled Guinea-flower
SS	<i>Hibbertia virgata</i>	Twiggy Guinea-flower
SS	<i>Hibbertia sericea s.l.</i>	Silky Guinea-flower
SS	<i>Micromyrtus ciliata</i>	Heath-myrtle
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Arthropodium strictum s.s.</i>	Chocolate Lily
LH	<i>Linum marginale</i>	Native Flax
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Drosera peltata ssp. peltata</i>	Pale Sundew
MH	<i>Glischrocaryon behrii</i>	Golden Pennants
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
MTG	<i>Dianella revoluta s.s.</i>	Black-anther Flax-lily
MTG	<i>Austrodanthonia setacea var. setacea</i>	Bristly Wallaby-grass
MTG	<i>Neurachne alopecuroides</i>	Fox-tail Mulga-grass
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Billardiera cymosa s.l.</i>	Sweet Apple-berry

EVC 93: Sandstone Ridge Shrubland (*syn.* Broombush Mallee) - Wimmera bioregion

Recruitment:

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

Organic Litter:

20 % cover

Logs:

5 m/0.1 ha⁺

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MTG	<i>Pentaschistis airoides</i> subsp. <i>airoides</i>	False Hair-grass	high	low
MTG	<i>Ehrharta calycina</i>	Perennial Veldt Grass	high	high
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 95: Red Swale Mallee

Description:

Dense to sometimes whipstick form of mallee shrubland to 6 m tall with a typically sparse understorey. This EVC does not necessarily occur in dune swales, however it is often found on low points in the jumbled or parabolic dunefields of the Lowan where the underlying Parilla ridges may be "exposed" and are mantled by a thin layer of aeolian material.

Tree Canopy Cover:

% cover	Character Species	Common Name
30%	<i>Eucalyptus dumosa</i>	Dumosa Mallee
	<i>Eucalyptus calycogona</i>	Red Mallee
	<i>Eucalyptus leptophylla</i>	Slender-leaf Mallee
	<i>Eucalyptus socialis</i>	Grey Mallee

Understorey:

Life form	#Spp	%Cover	LF code
Medium Shrub	4	10%	MS
Small Shrub	3	5%	SS
Large Herb	1	1%	LH
Medium Herb	7	10%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	3	5%	MTG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C
Total understorey projective foliage cover		55%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Dodonaea bursariifolia</i>	Small Hop-bush
MS	<i>Beyeria opaca</i>	Dark Turpentine Bush
MS	<i>Melaleuca uncinata</i>	Broombush
SS	<i>Westringia rigida</i>	Stiff Westringia
MH	<i>Chenopodium desertorum</i>	Frosted Goosefoot
MH	<i>Stenopetalum lineare</i>	Narrow Thread-petal
MH	<i>Crassula colorata</i>	Dense Crassula
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
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:

15% cover

Logs:

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

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Olea europaea</i>	Olive	high	high
LH	<i>Brassica tournefortii</i>	Mediterranean Turnip	high	high
LH	<i>Opuntia</i> spp.	Cactus	high	high
MH	<i>Gazania linearis</i>	Gazania	high	high
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

EVC 95: Red Swale Mallee - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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>Eucalyptus porosa</i>	Black Mallee-box
	<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>Rhagodia spinescens</i>	Hedge Saltbush
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby 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 - Wimmera 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	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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>Casuarina</i> spp.	40 cm	20/ha
<i>Allocasuarina</i> spp.	40 cm	
<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 - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

20% cover

Logs:

20m/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

Wimmera bioregion

EVC 101: Samphire Shrubland

Description:

Low open shrub layer to 0.5 m 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
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		30%	

LF Code	Species typical of at least part of EVC range	Common Name
SS	<i>Halosarcia pruinosa</i>	Bluish Glasswort
SS	<i>Halosarcia halocnemoides</i> ssp. <i>halocnemoides</i>	Grey Glasswort
SS	<i>Halosarcia pergranulata</i>	Blackseed Glasswort
MH	<i>Senecio glossanthus</i>	Slender Groundsel
MH	<i>Hymenolobus procumbens</i>	Oval Purse
MH	<i>Brachyscome lineariloba</i>	Hard-head 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 – Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 103_61: Southern Wimmera Riverine Chenopod Woodland

Description:

Grassy and low chenopod-dominated eucalypt woodland to 15 m tall with large range of herbs including several annuals. Occurs on fertile, silty clay-loams associated with alluvial terraces of major rivers in areas receiving >500 mm annual rainfall. Sites are associated with recent Quaternary swamp deposits and may be occasionally inundated during flood events. Clay soils are generally waterlogged in winter and dry and cracking in summer.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	60 cm	10 / 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	5%	MS
Small Shrub	3	5%	SS
Medium Herb	10	20%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	7	25%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		85%	

LF Code	Species typical of at least part of EVC range	Common Name
T	v <i>Acacia oswaldii</i>	Umbrella Wattle
MS	<i>Pittosporum angustifolium</i>	Weeping Pittosporum
MS	<i>Senna artemisioides</i>	Desert Cassia
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
SS	R <i>Maireana rohrlachii</i>	Rohrlach's Bluebush
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Maireana excavata</i>	Bottle Bluebush
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Solanum esuriale</i>	Quena
SH	<i>Maireana pentagona</i>	Hairy Bluebush
SH	<i>Atriplex semibaccata</i>	Berry Saltbush
LTG	<i>Austrostipa bigeniculata</i>	Knead Spear-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Enteropogon acicularis</i>	Spider Grass
MTG	<i>Lomandra effusa</i>	Scented Mat-rush
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

EVC 103_61: *Southern Wimmera* Riverine Chenopod Woodland - Wimmera 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>Helminthotheca echinoides</i>	Ox-tongue	high	low
LH	<i>Rumex crispus</i>	Curled Dock	high	low
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
MH	<i>Centaureum erythraea</i>	Common Centaury	low	low
MH	<i>Capsella bursa-pastoris</i>	Shepherd's Purse	high	low
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	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>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Trifolium scabrum</i>	Rough Clover	high	low
MH	<i>Galium divaricatum</i>	Slender Bedstraw	high	low
SH	<i>Trifolium repens</i> var. <i>repens</i>	White Clover	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MTG	<i>Phalaris paradoxa</i>	Paradoxical Canary-grass	high	low
MTG	<i>Juncus bulbosus</i>	Bulbous Rush	high	low
MTG	<i>Critetion hystrix</i>	Mediterranean Barley-grass	high	low
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low
MNG	<i>Brachypodium distachyon</i>	False Brome	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 103_62: Northern Wimmera 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. Occurs in areas with <500 mm annual rainfall.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus largiflorens</i>	40 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 nitriaceum</i>	Nitre Goosefoot
MS	<i>Eremophila divaricata</i> ssp. <i>divaricata</i>	Spreading Emu-bush
SS	<i>Sclerolaena tricuspidis</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:

5m/0.1 ha.

EVC 103_62: Northern Wimmera Riverine Chenopod Woodland - Wimmera bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Olea europaea</i> subsp. <i>europaea</i>	Olive	high	high
MS	<i>Lycium ferocissimum</i>	Boxthorn	high	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.	Cactus	high	high
LH	<i>Sisymbrium irio</i>	London Mustard	high	high
LH	<i>Psilocaulon 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	high	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

Wimmera 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 - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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	40%	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 macrorhinus</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 - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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*	6	20%	MH
Small or Prostrate Herb*	3	10%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	5	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 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

Recruitment:

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

Organic Litter:

10% cover

EVC 132: Plains Grassland - Wimmera 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 hystrix</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

Wimmera bioregion

EVC 134: Sand Forest

Description:

Eucalypt forest to 20 m tall occurring on deep, low fertility sand deposits subject to high fire frequency. The understorey is visually dominated by Austral Bracken and the overall diversity is low.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-barked Manna-gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	5%	MS
Small Shrub	1	5%	SS
Prostrate Shrub	2	5%	PS
Medium Herb	2	5%	MH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	7	15%	MTG
Medium to Tiny Non-tufted Graminoid	2	1%	MNG
Ground Fern	1	50%	GF
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia mearnsii</i>	Black Wattle
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Acacia paradoxa</i>	Hedge Wattle
SS	<i>Astroloma conostephioides</i>	Flame Heath
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Goodenia geniculata</i>	Bent Goodenia
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
LTG	<i>Xanthorrhoea australis</i>	Austral Grass-tree
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Austrodanthonia geniculata</i>	Knead Wallaby-grass
MTG	<i>Lomandra nana</i>	Dwarf Mat-rush
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
GF	<i>Pteridium esculentum</i>	Austral Bracken

Recruitment:

Continuous

Organic Litter:

40 % cover

Logs:

15 m/0.1 ha.

EVC 134: Sand Forest – Wimmera bioregion

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
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MNG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Holcus setosus</i>	Annual Fog	high	low
MNG	<i>Aira praecox</i>	Early Hair-grass	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 136: Sedge Wetland

Description:

Open woodland to 15 m tall. Occurs in small swamps or on seasonally inundated drainage lines. Swamp sites are most often permanent, but can dry in drought years or towards the end of summer. Usually devoid of a shrub layer, possibly due to the scouring action of flooding and lying water. The ground layer consists of sedges in patches and a diversity of aquatic and amphibious herbs and grasses.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	5 / 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
Medium Shrub	1	1%	MS
Large Herb	4	10%	LH
Medium Herb	10	20%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	3	5%	LTG
Medium to Small Tufted Graminoid	11	30%	MTG
Medium to Tiny Non-tufted Graminoid	3	10%	MNG
Tiny Tufted Graminoid	2	5%	TTG
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>Leptospermum continentale</i>	Prickly Tea-tree
LH	<i>Epilobium billardierianum</i>	Variable Willow-herb
LH	<i>Myriophyllum crispatum</i>	Upright Water-milfoil
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
MH	<i>Stylidium despectum</i>	Small Trigger-plant
MH	<i>Rumex brownii</i>	Slender Dock
MH	<i>Gratiola pubescens</i>	Glandular Brooklime
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Phyllangium divergens</i>	Wiry Mitrewort
SH	<i>Lobelia pratioides</i>	Poison Lobelia
LTG	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
LTG	<i>Carex tereticaulis</i>	Hollow Sedge
MTG	<i>Juncus amabilis</i>	Hollow Rush
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Carex inversa</i>	Knob Sedge
MNG	<i>Chorizandra enodis</i>	Black Bristle-sedge
TTG	<i>Isolepis marginata</i>	Little Club-sedge

EVC 136: Sedge Wetland - Wimmera bioregion

Recruitment:

Episodic/Flood. Desirable period between disturbances is 5 years

Organic Litter:

10 % cover

Logs:

5 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	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>Cotula coronopifolia</i>	Water Buttons	high	high
MTG	<i>Critesion hystrix</i>	Mediterranean Barley-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	high
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Holcus setosus</i>	Annual Fog	high	high
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
TTG	<i>Isolepis hystrix</i>	Awned Club-sedge	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 164: Creekline Herb-rich Woodland

Description:

Woodland or open forest to 15 m tall occurring on creek terraces and along shallow drainage lines with ephemeral flows. Soils are mostly alluvial deposits of seasonally wet sands and silts. Characterised by a sparse shrub layer above a grassy/sedgy understorey, often rich in herbs within the inter-tussock spaces.

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 ovata</i>	Swamp Gum
	<i>Eucalyptus camaldulensis</i>	River Red Gum
	<i>Eucalyptus aromaphloia</i>	Scentbark

Life Forms:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	15%	MS
Small Shrub	1	5%	SS
Medium Herb	6	20%	MH
Small or Prostrate Herb	1	5%	SH
Large Tufted Graminoid	1	20%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	2	5%	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
T	<i>Acacia mearnsii</i>	Black Wattle
MS	<i>Bursaria spinosa</i>	Sweet Bursaria
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Viola hederacea</i> sensu Willis (1972)	Ivy-leaf Violet
MH	<i>Drosera peltata</i>	Pale Sundew
MH	<i>Poranthera microphylla</i>	Small Poranthera
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Poa labillardierei</i>	Common Tussock-grass
LNG	<i>Gahnia radula</i>	Thatch Saw-sedge
MTG	<i>Poa clelandii</i>	Noah's Ark
MTG	<i>Pentapogon quadrifidus</i>	Five-awned Spear-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

Recruitment:

Continuous

Organic Litter:

20 % cover

Logs:

10 m/0.1 ha.

EVC 164: Creekline Herb-rich Woodland - Wimmera bioregion

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
MTG	<i>Anxiothanthum odoratum</i>	Sweet Vernal Grass	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 175: Grassy Woodland

Description:

A variable open eucalypt woodland to 15 m tall over a diverse ground layer of grasses and herbs. The shrub component is usually diverse but sparse in cover. In the Wimmera bioregion, occurs on sedimentary soils on low rises in areas intermediate between the plains and more infertile higher sedimentary rises carrying mallee vegetation.

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 microcarpa</i>	Grey Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	6	15%	MS
Small Shrub	3	5%	SS
Large Herb	4	10%	LH
Medium Herb	10	15%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	11	25%	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

MS	<i>Cassinia arcuata</i>	Drooping Cassinia
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
MS	<i>Dodonaea viscosa</i> ssp. <i>cuneata</i>	Wedge-leaf Hop-bush
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Eutaxia microphylla</i> var. <i>microphylla</i>	Common Eutaxia
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Chrysocephalum semipapposum</i>	Clustered Everlasting
LH	<i>Wahlenbergia luteola</i>	Bronze Bluebell
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Veronica plebeia</i>	Trailing Speedwell
MH	<i>Daucus glochidiatus</i>	Australian Carrot
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
MH	<i>Vittadinia cuneata</i>	Fuzzy New Holland Daisy
SH	<i>Crassula sieberiana</i>	Sieber Crassula
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Convolvulus erubescens</i> ssp. <i>agg.</i>	Pink Bindweed
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Austrostipa scabra</i> ssp. <i>falcata</i>	Rough Spear-grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MNG	<i>Austrostipa elegantissima</i>	Feather Spear-grass
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

EVC 175: Grassy Woodland - Wimmera 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>Cirsium vulgare</i>	Spear Thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	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
MTG	<i>Bromus hordeaceus ssp. hordeaceus</i>	Soft Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 179: Heathy Herb-rich Woodland

Description:

Eucalypt woodland or open-forest to 15 m tall generally with a bracken-dominated understorey. Large shrubs and understorey trees are generally present. The understorey comprises a range of heathy shrubs and subshrubs, grasses and herbs. Occurs on Quaternary aeolian deposits with relatively well-drained sandy soils often with limestone at depth.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus arenacea</i>	Desert Stringybark

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	7	15%	SS
Prostrate Shrub	2	5%	PS
Large Herb	1	1%	LH
Medium Herb*	6	5%	MH
Small or Prostrate Herb*	2	1%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	6	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	1	25%	GF
Bryophytes/Lichens	na	10%	BL

* Largely seasonal life form

Total understorey projective foliage cover 85%

Recruitment:

Continuous

Organic Litter:

20 % cover

Logs:

15 m/0.1 ha.

EVC 179: Heathy Herb-rich Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia mearnsii</i>	Black Wattle
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Acacia paradoxa</i>	Hedge Wattle
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
SS	<i>Isopogon ceratophyllus</i>	Horny Cone-bush
SS	<i>Hibbertia sericea</i> s.l.	Silky Guinea-flower
SS	<i>Leucopogon virgatus</i> var. <i>virgatus</i>	Common Beard-heath
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Gompholobium ecostatum</i>	Dwarf Wedge-pea
LH	<i>Wahlenbergia gracilis</i> s.s.	Sprawling Bluebell
MH	<i>Wahlenbergia gracilentia</i> s.s.	Hairy Annual-bluebell
MH	<i>Stuartina muelleri</i>	Spoon Cudweed
MH	<i>Glossodia major</i>	Wax-lip Orchid
SH	<i>Crassula sieberiana</i>	Sieber Crassula
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	r <i>Xanthorrhoea caespitosa</i>	Tufted Grass-tree
LTG	<i>Xanthorrhoea minor</i> ssp. <i>lutea</i>	Small Grass-tree
MTG	<i>Dianella revoluta</i> s.s.	Black-anther Flax-lily
MTG	<i>Austrodanthonia geniculata</i>	Kneed Wallaby-grass
MTG	<i>Lomandra nana</i>	Dwarf Mat-rush
MTG	<i>Austrodanthonia setacea</i> var. <i>setacea</i>	Bristly Wallaby-grass
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
TTG	<i>Isolepis marginata</i>	Little Club-sedge
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Drosera macrantha</i>	Climbing Sundew

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	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>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
LTG	<i>Ehrharta calycina</i>	Perennial Veldt-grass	high	high
MTG	<i>Pentstemonis airoides</i> ssp. <i>airoides</i>	False Hair-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	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>Aira</i> spp.	Hair Grass	high	low
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Aira caryophyllea</i>	Silvery Hair-grass	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 191: Riparian Scrub

Description:

Scrub or shrubland to 6 m tall. Occurs along broad, gently sloping drainage lines where stream alluvium is present. Species diversity is generally low due to the dense cover of Scented Paperbark *Melaleuca squarrosa*. Scattered emergent eucalypts are sometimes present while the understorey is dominated by large sedges and amphibious herbs.

Canopy Cover:

%cover	Character Species	Common Name
50%	<i>Melaleuca squarrosa</i>	Scented Paperbark

Life Forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	4	10%	MS
Small Shrub	2	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	1	5%	LH
Medium Herb	4	5%	MH
Large Tufted Graminoid	2	25%	LTG
Medium to Small Tufted Graminoid	1	10%	MTG
Medium to Tiny Non-tufted Graminoid	3	15%	MNG
Bryophytes/Lichens	na	20%	BL
Total understorey projective foliage cover		90%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Melaleuca squamea</i>	Swamp Honey-myrtle
MS	<i>Allocasuarina paludosa</i>	Scrub Sheoak
SS	<i>Pultenaea stricta</i>	Rigid Bush-pea
PS	<i>Xanthosia leiophylla</i>	Parsley Xanthosia
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
MH	<i>Selaginella uliginosa</i>	Swamp Selaginella
MH	<i>Viola hederacea</i> sensu Willis (1972)	Ivy-leaf Violet
MH	<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall Sundew
MH	<i>Brunonia australis</i>	Blue Pincushion
LTG	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge
LTG	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
MTG	<i>Tetraria capillaris</i>	Hair Sedge
MNG	<i>Empodisma minus</i>	Spreading Rope-rush
MNG	<i>Baumea tetragona</i>	Square Twig-sedge

Recruitment:

Continuous

Organic Litter:

40 % cover

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	<i>Rubus fruticosus</i> spp. agg.	Blackberry	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high

EVC 191: Riparian Scrub – Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 195: Seasonally Inundated Shrubby Woodland

Description:

Shrub-dominated eucalypt woodland to 15 m tall with an understorey visually dominated by medium shrubs and including a range of sedges and grasses and herbs including a number of annuals. Occurs on moderately fertile, poorly-drained, shallow sand or silty topsoils over heavier clay subsoils that naturally impede drainage. Often associated with recent Quaternary swamp deposits and broad, seasonal drainage lines and outwash flats between sand dunes. Soils are generally inundated or waterlogged in winter and baked hard in summer, which promotes sedges and annual species.

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 leucoxylon</i>	Yellow Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	7	35%	MS
Small Shrub	4	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	4	10%	MH
Small or Prostrate Herb	3	5%	SH
Medium to Small Tufted Graminoid	6	20%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Tiny Tufted Graminoid	3	1%	TTG
Epiphyte	1	1%	EP
Bryophytes/Lichens	na	10%	BL

EVC 195: Seasonally Inundated Shrubby Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Melaleuca gibbosa</i>	Slender Honey-myrtle
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Hakea rugosa</i>	Dwarf Hakea
MS	<i>Grevillea ilicifolia</i>	Holly Grevillea
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Eutaxia microphylla</i> var. <i>microphylla</i>	Common Eutaxia
SS	<i>Hibbertia sericea</i> s.l.	Silky Guinea-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Arthropodium strictum</i> s.s.	Chocolate Lily
LH	<i>Arthropodium</i> spp. (s.s.)	Vanilla Lily
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Wahlenbergia gracilenta</i> s.s.	Hairy Annual-bluebell
MH	<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	Blue Stars
MH	<i>Microseris scapigera</i> spp. agg.	Yam Daisy
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Myriocephalus rhizocephalus</i>	Woolly-heads
SH	<i>Drosera glanduligera</i>	Scarlet Sundew
SH	r <i>Gnephosis drummondii</i>	Slender Cup-flower
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Dianella revoluta</i> s.s.	Black-anther Flax-lily
MTG	<i>Austrodanthonia setacea</i> var. <i>setacea</i>	Bristly Wallaby-grass
MTG	<i>Lomandra juncea</i>	Desert Mat-rush
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Isolepis marginata</i>	Little Club-sedge
EP	<i>Cassytha glabella</i>	Slender Dodder-laurel
EP	<i>Amyema pendula</i>	Drooping Mistletoe
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

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>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Centaureum tenuiflorum</i>	Slender Centaury	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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 or current stream or wetland bed.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine

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
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

EVC 264: Sand Ridge Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Dodonaea viscosa</i>	Sticky Hop-bush
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
SS	<i>Pultenaea tenuifolia</i>	Slender Bush-pea
SS	<i>Isopogon ceratophyllus</i>	Horny Cone-bush
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
PS	<i>Kennedia prostrata</i>	Running Postman
PS	<i>Astroloma humifusum</i>	Cranberry Heath
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	r <i>Thomasia petalocalyx</i>	Paper Flower
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
MTG	<i>Lepidosperma carphoides</i>	Black Rapier-sedge
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel

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 caryophyllea</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

Wimmera bioregion

EVC 282: Shrubby Woodland

Description:

Eucalypt woodland to 15 m tall with a tall and often dense shrubby understorey. Ground cover variously dominated by sedges, grasses and herbs. Soils generally duplex with sandy loam overlying heavy clay subsoil, prone to seasonal inundation periods. Commonly found on valley floors.

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 melliodora</i>	Yellow 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	2	10%	T
Medium Shrub	6	40%	MS
Small Shrub	3	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	2	1%	LH
Medium Herb	5	5%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	4	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	10%	BL

EVC 282: Shrubby Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia mearnsii</i>	Black Wattle
T	<i>Acacia melanoxylon</i>	Blackwood
MS	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Leptospermum scoparium</i>	Manuka
MS	<i>Hakea nodosa</i>	Yellow Hakea
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Acrotriche serrulata</i>	Honey-pots
MH	<i>Lagenophora stipitata</i>	Common Bottle-daisy
MH	<i>Hypericum gramineum</i>	Small St John's Wort
MH	<i>Euchiton collinus s.s.</i>	Creeping Cudweed
SH	<i>Asperula minima</i>	Mossy Woodruff
LTG	<i>Xanthorrhoea australis</i>	Austral Grass-tree
LTG	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge
LNG	<i>Gahnia radula</i>	Thatch Saw-sedge
MTG	<i>Lomandra sororia</i>	Small Mat-rush
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Lomandra multiflora</i> ssp. <i>multiflora</i>	Many-flowered Mat-rush
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
MNG	<i>Leptocarpus tenax</i>	Slender Twine-rush

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</i> s.l.	Common Mouse-ear Chickweed	high	low
MH	<i>Galium murale</i>	Small Goosegrass	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 283: Plains Sedgy Woodland

Description:

Occurs in shallow depressions associated with broad plains or floodplains. Soils are poorly drained, cracking clays which can form seasonal shallow freshwater marshes. The vegetation is an open woodland to 15 m tall, with shrubs and understorey trees generally absent, and sedges predominating in the ground layer. Herbs typical of inundated environments are present, but also grass, herb and annual species common to surrounding woodlands.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Allocasuarina leuhmannii</i>	Buloke

Understorey:

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

Recruitment:

Continuous

Organic Litter:

10 % cover

Logs:

15 m/0.1 ha.

EVC 283: Plains Sedgy Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Hakea rugosa</i>	Dwarf Hakea
MS	v <i>Comesperma polygaloides</i>	Small Milkwort
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Acrotriche serrulata</i>	Honey-pots
LH	<i>Eryngium ovinum</i>	Blue Devil
LH	<i>Brachyscome cardiocarpa</i>	Swamp Daisy
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
MH	<i>Utricularia dichotoma s.l.</i>	Fairies' Aprons
MH	<i>Drosera peltata ssp. peltata</i>	Pale Sundew
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Myriocephalus rhizocephalus</i>	Woolly-heads
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LNG	<i>Baumea rubiginosa s.l.</i>	Soft Twig-rush
MTG	<i>Lepidosperma congestum</i>	Clustered Sword-sedge
MTG	<i>Austroanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Lachnagrostis filiformis var. filiformis</i>	Common Blown-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MNG	<i>Chorizandra enodis</i>	Black Bristle-sedge
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Centrolepis strigosa ssp. strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis glabra</i>	Smooth Centrolepis
TTG	<i>Aphelia gracilis</i>	Slender Aphelia
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	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>Cicendia filiformis</i>	Slender Cicendia	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MTG	<i>Romulea rosea</i>	Onion 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>Juncus capitatus</i>	Capitate Rush	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low
TTG	<i>Isolepis hystrix</i>	Awned Club-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 285: Dry Creekline Woodland

Description:

Shrub-dominated eucalypt woodland to 15 m tall with a sedge and herb-dominated understorey. Occurs along small, narrow, ephemeral streams flowing north and west from the Grampians towards drier regions in the north. Streams are largely dry in summer and often contain coarse alluvial sand deposits derived from a variety of geologies.

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 goniocalyx</i> s.l.	Bundy
	<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-barked Manna Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	4	20%	MS
Large Herb	1	1%	LH
Medium Herb	5	10%	MH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	5	20%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Tiny Tufted Graminoid*	2	1%	TTG
Bryophytes/Lichens	na	20%	BL

* 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>Melaleuca decussata</i>	Totem Poles
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Dodonaea viscosa</i>	Sticky Hop-bush
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
MH	<i>Viola hederacea</i> sensu Entwisle (1996)	Ivy-leaf Violet
MH	<i>Gonocarpus elatus</i>	Tall Raspwort
MH	<i>Gonocarpus tetragynus</i>	Rough Raspwort
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Hydrocotyle callicarpa</i>	Small Pennywort
SH	<i>Goodenia humilis</i>	Swamp Goodenia
LTG	<i>Juncus pallidus</i>	Pale Rush
MTG	<i>Lepidosperma laterale</i>	Variable Sword-sedge
MTG	<i>Poa morrisii</i>	Soft Tussock-grass
MTG	<i>Juncus planifolius</i>	Broad-leaf Rush
MTG	<i>Juncus pauciflorus</i>	Loose-flower Rush
MNG	<i>Poa tenera</i>	Slender Tussock-grass
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis

EVC 285: Dry Creekline Woodland - Wimmera bioregion

Recruitment:

Continuous

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

Wimmera bioregion

EVC 291: Cane Grass Wetland

Description:

Open-grassland, typically very species-poor except on outer verges, often with monospecific (or virtually so) cane-grass dominated centres. Occur on alluvial plains in shallow (~1 m deep) depressions, on very heavy grey clay soils, prone to turbidity when inundated (4-6 months) and extreme cracking when dry.

Life Forms:

Life form	#Spp	%Cover	LF code
Small or Prostrate Herb	2	10%	SH
Medium to Tiny Non-tufted Graminoid	2	50%	MNG
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		70%	

LF Code	Species typical of at least part of EVC range	Common Name
SH	<i>Lemna disperma</i>	Common Duckweed
SH	<i>Azolla filiculoides</i>	Pacific Azolla
MNG	<i>Eragrostis infecunda</i>	Southern Cane-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

Recruitment:

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

Organic Litter:

10% cover

Weediness:

There are no consistent weeds in this EVC.

EVC 291: Cane Grass Wetland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 292: Red Gum Swamp

Description:

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. River Red Gum woodland to 15 m tall with sedgy or grassy-herbaceous ground-layer, comprising various balances of true aquatics and species tolerant of intermittent to seasonal inundation.

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 Shrub	1	1%	MS
Large Herb	3	10%	LH
Medium Herb	10	25%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	8	20%	MTG
Medium to Tiny Non-tufted Graminoid	2	15%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Allocasuarina luehmannii</i>	Buloke
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
LH	<i>Eryngium ovinum</i>	Blue Devil
LH	<i>Brachyscome cardiocarpa</i>	Swamp Daisy
MH	<i>Potamogeton tricarlinatus s.l.</i>	Floating Pondweed
MH	<i>Haloragis aspera</i>	Rough Raspwort
MH	<i>Drosera peltata ssp. peltata</i>	Pale Sundew
MH	<i>Stylidium despectum</i>	Small Trigger-plant
SH	<i>Lobelia pratioides</i>	Poison Lobelia
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Neopaxia australasica</i>	White Purslane
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Juncus flavidus</i>	Gold Rush
LTG	<i>Carex tereticaulis</i>	Hollow Sedge
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Schoenus tesquorum</i>	Soft Bog-sedge
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Chorizandra enodis</i>	Black Bristle-sedge

EVC 292: Red Gum Swamp - Wimmera bioregion

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
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Cicendia filiformis</i>	Slender Cicendia	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 640: Creekline Sedgy Woodland

Description:

Sedge and rush-dominated eucalypt woodland to 15 m tall with amphibious herbs. Occurs along banks and adjacent wet flats of smaller intermittent creeks on coarse sands and stony alluvial soils and on the floodplains of larger rivers, in areas where annual rainfall is less than 500 mm per annum.

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
	<i>Eucalyptus microcarpa</i>	Grey 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	2	1%	SS
Large Herb	2	5%	LH
Medium Herb	5	10%	MH
Small or Prostrate Herb	1	1%	SH
Large Tufted Graminoid	3	15%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	20%	MTG
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		80%	

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia</i> spp.	Wattle
MS	<i>Cassinia arcuata</i>	Drooping Cassinia
MS	<i>Acacia pycnantha</i>	Golden Wattle
SS	<i>Pimelea humilis</i>	Common Rice-flower
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Acaena echinata</i>	Sheep's Burr
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Carex tereticaulis</i>	Sedge Rush
MTG	<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass

Recruitment:

Continuous

Organic Litter:

40% cover

Logs:

20m/0.1 ha

EVC 640: Creekline Sedgy Woodland - Wimmera bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MNG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Romulea rosea</i>	Onion Grass	high	low
MNG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Briza minor</i>	Lesser 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

Wimmera 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
Small Shrub	1	1%	SS
Large Herb	4	10%	LH
Medium Herb	5	10%	MH
Small or Prostrate Herb	1	5%	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
MS	<i>Viminaria juncea</i>	Golden Spray
MS	<i>Melaleuca decussata</i>	Totem-poles
SS	<i>Rubus parvifolius</i>	Small-leaf Bramble
LH	<i>Wahlenbergia gracilis</i> s.s.	Sprawling Bluebell
LH	<i>Myriophyllum crispatum</i>	Upright Water-milfoil
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
LTG	<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge
LTG	<i>Carex appressa</i>	Tall Sedge
MTG	<i>Lachnagrostis filiformis</i> var. <i>filiformis</i>	Common Blown-grass
MTG	<i>Juncus amabilis</i>	Hollow Rush
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Cynodon dactylon</i>	Couch
SC	<i>Calystegia sepium</i>	Large Bindweed

Recruitment:

Continuous

Organic Litter:

30% cover

Logs:

20m / 0.1 ha

EVC 641: Riparian Woodland - Wimmera bioregion

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

Wimmera bioregion

EVC 643: Brackish Drainage-line Aggregate

Description:

Treeless EVC dominated by sedges and herbs that are generally indicative of saline conditions. True halophytic species such as samphires, if present, only occur with very low cover. Occurs on heavy clay and organic alluvial soils along salinised minor drainage lines.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	1	5%	LH
Medium Herb	2	10%	MH
Small or Prostrate Herb	4	15%	SH
Large Non-tufted Graminoid	1	10%	LNG
Medium to Small Tufted Graminoid	2	5%	MTG
Medium to Tiny Non-tufted Graminoid	3	30%	MNG
Scrambler or Climber	1	1%	SC
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		85%	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Persicaria decipiens</i>	Slender Knotweed
LH	<i>Epilobium billardierianum</i> ssp. <i>billardierianum</i>	Smooth Willow-herb
MH	<i>Samolus repens</i>	Creeping Brookweed
SH	<i>Selliera radicans</i>	Shiny Swamp-mat
SH	<i>Crassula helmsii</i>	Swamp Crassula
SH	<i>Mimulus repens</i>	Creeping Monkey-flower
SH	<i>Lobelia irrigua</i>	Salt Pratia
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MNG	<i>Bolboschoenus caldwellii</i>	Salt Club-sedge
MNG	<i>Distichlis distichophylla</i>	Australian Salt-grass
MNG	<i>Schoenoplectus pungens</i>	Sharp Club-sedge
MNG	<i>Triglochin striatum</i>	Streaked Arrowgrass
SC	<i>Calystegia sepium</i>	Large Bindweed

Recruitment:

Episodic/Flood: desirable period of disturbance is every five years

Organic Litter:

10% cover

Weediness:

There are no consistent weeds in this EVC.

EVC 643: Brackish Drainage-line Aggregate

- Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 647: Plains Sedgy Wetland

Description:

Occurs in seasonally wet depressions on volcanic and sedimentary plains, typically associated with fertile, silty, peaty or heavy clay paludal soils. Primarily sedgy-herbaceous vegetation, sometimes with scattered or fringing eucalypts or tea-tree/paperbark shrubs in higher rainfall areas. A range of aquatic herbs can be present, and species-richness is mostly relatively low to moderate, but higher towards drier margins.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	2	5%	LH
Medium Herb	4	20%	MH
Small or Prostrate Herb	2	5%	SH
Large Non-tufted Graminoid	1	25%	LNG
Medium to Small Tufted Graminoid	4	10%	MTG
Medium to Tiny Non-tufted Graminoid	1	5%	MNG
Total understorey projective foliage cover		70%	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
LH	<i>Epilobium billardierianum</i> ssp. <i>cinereum</i>	Grey Willow-herb
LH	<i>Epilobium billardierianum</i>	Variable Willow-herb
MH	<i>Potamogeton tricarinatus</i> s.l.	Floating Pondweed
MH	<i>Lilaeopsis polyantha</i>	Australian Lilaeopsis
MH	<i>Myriophyllum simulans</i>	Amphibious Water-milfoil
MH	<i>Utricularia dichotoma</i> s.l.	Fairies' Aprons
SH	<i>Lobelia pratioides</i>	Poison Lobelia
SH	<i>Neopaxia australasica</i>	White Purslane
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LNG	<i>Baumea rubiginosa</i> s.l.	Soft Twig-rush
MTG	<i>Isolepis fluitans</i>	Floating Club-sedge
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MTG	k <i>Lachnagrostis filiformis</i> (perennial variety)	Wetland Blown-grass
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MNG	v <i>Amphibromus sinuatus</i>	Wavy Swamp Wallaby-grass
MNG	<i>Schoenus fluitans</i>	Floating Bog-sedge

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:

There are no consistent weeds in this EVC.

EVC 647: Plains Sedgy Wetland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 651: Plains Swampy Woodland

Description:

Eucalypt woodland to 15 m tall with ground layer dominated by tussock grasses, sedges and herbs. Shrubs are often scattered throughout. Occurs on poorly drained, seasonally waterlogged heavy soils.

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 ovata</i>	Swamp Gum

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
Large Herb	3	5%	LH
Medium Herb	8	20%	MH
Small or Prostrate Herb	4	5%	SH
Large Tufted Graminoid	3	30%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	7	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	20%	BL

LF Code

Species typical of at least part of EVC range

Common Name

T	<i>Acacia melanoxylon</i>	Blackwood
MS	<i>Melaleuca gibbosa</i>	Slender Honey-myrtle
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Ozothamnus ferrugineus</i>	Tree Everlasting
MS	<i>Allocasuarina paludosa</i>	Scrub Sheoak
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
MH	<i>Asperula conferta</i>	Common Woodruff
MH	<i>Centella cordifolia</i>	Centella
MH	<i>Lobelia anceps</i>	Angled Lobelia
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
SH	<i>Eryngium vesiculosum</i>	Prickfoot
SH	<i>Oxalis exilis</i>	Shady Wood-sorrel
SH	<i>Hypericum japonicum</i>	Matted St John's Wort
LTG	<i>Gahnia trifida</i>	Coast Saw-sedge
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Poa labillardierei</i> var. <i>labillardierei</i>	Common Tussock-grass
MTG	<i>Poa clelandii</i>	Noah's Ark
MTG	<i>Lomandra filiformis</i>	Wattle Mat-rush
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MNG	<i>Poa tenera</i>	Slender Tussock-grass
MNG	<i>Hemarthria uncinata</i> var. <i>uncinata</i>	Mat Grass

EVC 651: Plains Swampy Woodland - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

10 % cover

Logs:

10 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Trifolium dubium</i>	Suckling Clover	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Prunella vulgaris</i>	Self-heal	high	low
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	high	low
LTG	<i>Festuca arundinacea</i>	Tall Fescue	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
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>Anthoxanthum odoratum</i>	Sweet Vernal-grass	high	high
MNG	<i>Holcus setosus</i>	Annual Fog	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 652: Lunette Woodland

Description:

An open, eucalypt woodland to 15 m tall with a grassy and herb-rich understorey. Occupies 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	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
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>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Acaena echinata</i>	Sheep's Burr
SH	<i>Dichondra repens</i>	Kidney-weed
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Austrostipa bigeniculata</i>	Knead Spear-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>	Stiped Wallaby-grass
MTG	<i>Tricoryne elatior</i>	Yellow Rush-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

EVC 652: Lunette Woodland - Wimmera 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

Wimmera bioregion

EVC 653: Aquatic Herbland

Description:

Herbland of permanent to semi-permanent wetlands, dominated by sedges (especially on shallower verges) and/or aquatic herbs. Occurs on fertile paludal soils, typically heavy clays beneath organic accumulations.

Life forms:

Life form	#Spp	%Cover	LF code
Medium Herb	3	30%	MH
Small or Prostrate Herb*	2	5%	SH
Medium to Small Tufted Graminoid	3	10%	MTG
Medium to Tiny Non-tufted Graminoid	2	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>Marsilea drummondii</i>	Common Nardoo
MH	<i>Myriophyllum simulans</i>	Amphibious Water-milfoil
MH	<i>Potamogeton tricarlinatus s.l.</i>	Floating Pondweed
MH	<i>Villarsia reniformis</i>	Running Marsh-flower
SH	<i>Azolla filiculoides</i>	Pacific Azolla
MTG	<i>Isolepis fluitans</i>	Floating Club-sedge
MTG	k <i>Lachnagrostis filiformis (perennial variety)</i>	Wetland Blown-grass
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MTG	<i>Triglochin procerum s.l.</i>	Water Ribbons
MNG	<i>Eragrostis infecunda</i>	Southern Cane-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

Weediness:

There are no consistent weeds in this EVC.

EVC 653: Aquatic Herbland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 655: Lignum Cane Grass Swamp

Description:

Shrubland to 2 m tall, typically very species-poor except on outer verges. May include species typical of more saline areas. Occurs in low rainfall areas (<500 mm per annum) in shallow (to 1 m deep) depressions, on very heavy grey clay soils, prone to turbidity when inundated (4-6 months) and extreme cracking when dry.

Life Forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	1	25%	MS
Prostrate Shrub	2	10%	PS
Medium to Tiny Non-tufted Graminoid	3	40%	MNG
Soil Crust	na	10%	S/C
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
PS	<i>Wilsonia rotundifolia</i>	Round-leaf Wilsonia
MNG	<i>Eragrostis infecunda</i>	Southern Cane-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Triglochin striatum</i>	Streaked Arrow-grass

Recruitment:

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

Organic Litter:

10% cover

Weediness:

There are no consistent weeds in this EVC.

EVC 655: Lignum Cane Grass Swamp - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 656: Brackish Wetland

Description:

Treeless EVC dominated by sedges and herbs that are generally indicative of saline conditions. True halophytic species such as samphires, if present, only occur with very low cover. Occurs in estuaries and along poorly defined drainage lines or associated with shorelines of brackish lakes.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	1	5%	LH
Medium Herb	3	15%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	1	10%	LTG
Large Non-tufted Graminoid	2	10%	LNG
Medium to Small Tufted Graminoid	2	5%	MTG
Medium to Tiny Non-tufted Graminoid	3	15%	MNG
Scrambler or Climber	1	1%	SC
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		80%	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Persicaria decipiens</i>	Slender Knotweed
LH	<i>Epilobium billardierianum</i> ssp. <i>billardierianum</i>	Smooth Willow-herb
MH	<i>Sarcocornia quinqueflora</i>	Beaded Glasswort
MH	<i>Samolus repens</i>	Creeping Brookweed
MH	<i>Suaeda australis</i>	Austral Seablite
SH	<i>Selliera radicans</i>	Shiny Swamp-mat
SH	<i>Crassula helmsii</i>	Swamp Crassula
SH	<i>Mimulus repens</i>	Creeping Monkey-flower
LTG	<i>Gahnia filum</i>	Chaffy Saw-sedge
LNG	<i>Juncus kraussii</i> ssp. <i>australiensis</i>	Sea Rush
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MNG	<i>Bolboschoenus caldwellii</i>	Salt Club-sedge
MNG	<i>Distichlis distichophylla</i>	Australian Salt-grass
MNG	<i>Schoenoplectus pungens</i>	Sharp Club-sedge
MNG	<i>Triglochin striatum</i>	Streaked Arrowgrass
SC	<i>Calystegia sepium</i>	Large Bindweed

Recruitment:

Episodic/Flood: desirable period of disturbance is every five years

Organic Litter:

10% cover

Weediness:

There are no consistent weeds in this EVC.

EVC 656: Brackish Wetland – Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 657: Freshwater Lignum Shrubland

Description:

Lignum-dominated shrubland to 2 m tall with a predominantly grassy-herbaceous ground layer. Occurs on fertile inundation-prone heavy soils mostly on the fringe of other wetland types.

Life forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	1	20%	MS
Large Herb	2	5%	LH
Medium Herb	3	20%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	6	25%	MTG
Medium to Tiny Non-tufted Graminoid	3	10%	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>Muehlenbeckia florulenta</i>	Lignum
LH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
LH	<i>Rumex brownii</i>	Slender Dock
MH	<i>Marsilea drummondii</i>	Common Nardoo
MH	<i>Alternanthera denticulata</i> s.l.	Lesser Joyweed
MH	<i>Myriophyllum muelleri</i>	Hooded Water-milfoil
SH	<i>Eryngium vesiculosum</i>	Prickfoot
SH	<i>Lobelia pratioides</i>	Poison Lobelia
SH	<i>Lobelia concolor</i>	Poison Pratia
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
MTG	<i>Juncus subsecundus</i>	Finger Rush
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
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 10 years.

Organic Litter:

10 % cover

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>Helminthotheca echioides</i>	Ox-tongue	high	high
LH	<i>Cynara cardunculus</i>	Spanish Artichoke	high	high
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Aster subulatus</i>	Aster-weed	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
MTG	<i>Nassella trichotoma</i>	Serrated Tussock	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low

EVC 657: Freshwater Lignum Shrubland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 659: Plains Riparian Shrubby Woodland

Description:

Shrub-dominated eucalypt woodland to 15 m tall with large range of grasses, sedges and perennial herbs. Occurs on moderately fertile, relatively well-drained, sandy alluvial topsoils over heavier subsoils. Associated with Quaternary alluvial deposits along narrow, seasonal streams in plains areas receiving <600 mm annual rainfall.

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
	<i>Eucalyptus microcarpa</i>	Grey Box

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	4	20%	MS
Small Shrub	2	5%	SS
Large Herb	3	5%	LH
Medium Herb	9	15%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	4	15%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	13	20%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Tiny Tufted Graminoid*	3	5%	TTG
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens	na	10%	BL

* Largely seasonal life form

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Exocarpos cupressiformis</i>	Cherry Ballart
MS	<i>Callistemon rugulosus</i>	Scarlet Bottlebrush
MS	<i>Acacia retinodes</i> var. <i>retinodes</i>	Wirilda
MS	<i>Goodenia ovata</i>	Hop Goodenia
MS	<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Hibbertia riparia</i>	Erect Guinea-flower
MH	<i>Rumex brownii</i>	Slender Dock
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
MH	<i>Euchiton sphaericus</i>	Annual Cudweed
SH	<i>Opercularia varia</i>	Variable Stinkweed
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge
MTG	<i>Austroanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Austroanthonia geniculata</i>	Knead Wallaby-grass
MTG	<i>Triglochin procerum</i> s.s.	Common Water-ribbons
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
SC	<i>Cassytha melantha</i>	Coarse Dodder-laurel

EVC 659: Plains Riparian Shrubby Woodland - Wimmera 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 oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Sonchus asper s.l.</i>	Rough Sow-thistle	high	low
LH	<i>Salvia verbenaca</i>	Wild Sage	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Arctotheca calendula</i>	Cape Weed	high	low
MH	<i>Centaureum erythraea</i>	Common Centaury	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Leontodon taraxacoides ssp. taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Mentha pulegium</i>	Pennyroyal	high	high
MH	<i>Trifolium angustifolium var. angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LTG	<i>Lolium multiflorum</i>	Italian Rye-grass	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Ehrharta longiflora</i>	Annual Veldt-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Sporobolus africanus</i>	Rat-tail Grass	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Paspalum dilatatum</i>	Paspalum	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MTG	<i>Gladiolus undulatus</i>	Wild Gladiolus	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MNG	<i>Brachypodium distachyon</i>	False Brome	high	low
MNG	<i>Aira caryophylla</i>	Silvery Hair-grass	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low
TTG	<i>Isolepis hystrix</i>	Awed Club-sedge	high	low
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 663: Black Box Lignum Woodland

Description:

Eucalypt-dominated shrubby woodland to 12 m tall or open-woodland or shrubland, which can be rich in herbaceous species. Occurs on inundation-prone heavy grey soils in depressions or floodways in low rainfall areas.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	70 cm	10 / 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
Medium Shrub	1	25%	MS
Small Shrub	1	1%	SS
Large Herb	4	5%	LH
Medium Herb	9	20%	MH
Small or Prostrate Herb	2	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	7	20%	MTG
Medium to Tiny Non-tufted Graminoid	3	20%	MNG
Soil Crust	na	10%	S/C

LF Code

Species typical of at least part of EVC range

Common Name

MS	<i>Muehlenbeckia florulenta</i>	Tangled Lignum
LH	r <i>Minuria integerrima</i>	Smooth Minuria
LH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
MH	<i>Marsilea drummondii</i>	Common Nardoo
MH	<i>Alternanthera denticulata</i> s.l.	Lesser Joyweed
MH	v <i>Ranunculus undosus</i>	Swamp Buttercup
MH	<i>Rumex brownii</i>	Slender Dock
SH	<i>Lobelia concolor</i>	Poison Pratia
LTG	<i>Juncus flavidus</i>	Gold Rush
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass
MTG	<i>Carex inversa</i>	Knob Sedge
MTG	<i>Enteropogon acicularis</i>	Spider 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
MNG	v <i>Cyperus concinnus</i>	Trim Flat-sedge

Recruitment:

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

Organic Litter:

20 % cover

Logs:

15 m/0.1 ha.

EVC 663: Black Box Lignum Woodland - Wimmera bioregion

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	high
LH	<i>Rumex crispus</i>	Curled Dock	high	high
LH	<i>Lactuca serriola</i>	Prickly Lettuce	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Melilotus indicus</i>	Sweet Melilot	high	high
MH	<i>Leontodon taraxacoides ssp. taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Trifolium campestre var. campestre</i>	Hop Clover	high	low
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MNG	<i>Bromus rubens</i>	Red Brome	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 673: Dune Soak Woodland

Description:

Sedge and shrub-dominated eucalypt woodland to 15 m tall with a number of herbs and grasses adapted to seasonal water-logging. Occurs on moderately fertile, poorly drained sites on sandy loams derived from former swamp deposits at edges of steep aeolian sand dunes. The underlying geology causes water to soak out from under the dunes where it collects in narrow depressions at the edge of the plain.

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 ovata</i>	Swamp Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	20%	T
Medium Shrub	8	35%	MS
Small Shrub	5	10%	SS
Prostrate Shrub	2	1%	PS
Large Herb	3	5%	LH
Medium Herb	5	10%	MH
Large Tufted Graminoid	1	1%	LTG
Large Non-tufted Graminoid	2	5%	LNG
Medium to Small Tufted Graminoid	8	30%	MTG
Medium to Tiny Non-tufted Graminoid	6	20%	MNG
Tiny Tufted Graminoid	3	5%	TTG
Ground Fern	1	1%	GF
Scrambler or Climber	1	1%	SC
Bryophytes/Lichens	na	10%	BL

EVC 673: Dune Soak Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia melanoxylon</i>	Blackwood
T	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Hakea rugosa</i>	Dwarf Hakea
MS	<i>Acacia verticillata</i>	Prickly Moses
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	<i>Leucopogon virgatus</i> var. <i>virgatus</i>	Common Beard-heath
SS	<i>Pultenaea laxiflora</i>	Loose-flower Bush-pea
SS	<i>Daviesia brevifolia</i>	Leafless Bitter-pea
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio hispidulus</i>	Rough Fireweed
MH	<i>Drosera peltata</i> ssp. <i>peltata</i>	Pale Sundew
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LNG	<i>Lepidosperma longitudinale</i>	Pithy Sword-sedge
MTG	<i>Austroanthonia racemosa</i> var. <i>racemosa</i>	Stiped Wallaby-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Dichelachne crinita</i>	Long-hair Plume-grass
MTG	<i>Lepidosperma congestum</i>	Clustered Sword-sedge
MNG	<i>Lomandra juncea</i>	Desert Mat-rush
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
MNG	<i>Chorizandra enodis</i>	Black Bristle-sedge
TTG	<i>Centrolepis polygyna</i>	Wiry Centrolepis
GF	<i>Pteridium esculentum</i>	Austral Bracken
SC	<i>Billardiera cymosa</i> s.l.	Sweet Apple-berry
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel

Recruitment:

Continuous

Organic Litter:

20 % cover

Logs:

15 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Olea europaea</i> ssp. <i>europaea</i>	Common Olive	high	high
MS	<i>Rubus</i> sp. aff. <i>armeniacus</i>	Blackberry	high	high
SS	<i>Pyracantha fortuneana</i>	Broad-leaf Firethorn	high	high
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Asparagus officinalis</i>	Asparagus	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Centaurium erythraea</i>	Common Centaury	high	low
LNG	<i>Avena</i> spp.	Oat	high	low
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira caryophylla</i>	Silvery Hair-grass	high	low
TTG	<i>Isolepis hystrix</i>	Awned Club-sedge	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low
Und	<i>Silene</i> spp.	Catchfly	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 674: Sandy Stream Woodland

Description:

Reed, sedge or shrub-dominated woodland to 15 m tall with a large range of amphibious herbs. Occupies the beds of seasonal creeks where large amounts of coarse sand have been deposited by past flows, often resulting in a distinctive 'U' shape to the drainage line. Sites periodically inundated through the wetter months and soils moist throughout the year. Restricted to moderately high rainfall areas (>600 mm) where coarse parent material available upstream.

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 ovata</i>	Swamp Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	2	15%	T
Medium Shrub	5	15%	MS
Medium Herb	6	10%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	2	20%	LNG
Medium to Small Tufted Graminoid	10	30%	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 melanoxylon</i>	Blackwood
T	<i>Acacia mearnsii</i>	Black Wattle
MS	<i>Leptospermum lanigerum</i>	Woolly Tea-tree
MS	<i>Leptospermum obovatum</i>	River Tea-tree
MS	<i>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Ozothamnus ferrugineus</i>	Tree Everlasting
SS	<i>Rubus parvifolius</i>	Small-leaf Bramble
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Acaena novae-zelandiae</i>	Bidgee-widgee
SH	<i>Lobelia pratioides</i>	Poison Lobelia
SH	<i>Crassula helmsii</i>	Swamp Crassula
LTG	<i>Poa labillardierei</i>	Common Tussock-grass
LNG	<i>Phragmites australis</i>	Common Reed
LNG	<i>Typha domingensis</i>	Cumbungi
MTG	<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Stiped Wallaby-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MTG	<i>Juncus pauciflorus</i>	Loose-flower Rush
MTG	<i>Juncus caespiticius</i>	Grassy Rush
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Ficinia nodosa</i>	Knobby Club-sedge

EVC 674: Sandy Stream Woodland - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

40 % cover

Logs:

20 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Salix fragilis</i>	Crack Willow	high	high
MS	<i>Lycium ferocissimum</i>	African Box-thorn	low	high
MS	<i>Genista monspessulana</i>	Montpellier Broom	high	high
MS	<i>Rosa rubiginosa</i>	Sweet Briar	low	high
MS	<i>Rubus</i> sp. aff. <i>armeniacus</i>	Blackberry	high	high
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Hirschfeldia incana</i>	Buchan Weed	high	high
LH	<i>Verbena bonariensis</i> s.l.	Purple-top Verbena	high	high
LH	<i>Rumex crispus</i>	Curled Dock	high	high
LH	<i>Rumex conglomeratus</i>	Clustered Dock	high	high
LH	<i>Conium maculatum</i>	Hemlock	high	high
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	low
LH	<i>Aster subulatus</i>	Aster-weed	high	low
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Solanum nigrum</i> sensu Willis (1972)	Black Nightshade	high	high
MH	<i>Brassica fruticulosa</i>	Twiggy Turnip	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Foeniculum vulgare</i>	Fennel	high	high
SH	<i>Modiola caroliniana</i>	Red-flower Mallow	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LTG	<i>Piptatherum miliaceum</i>	Rice Millet	high	high
MTG	<i>Ehrharta erecta</i> var. <i>erecta</i>	Panic Veldt-grass	high	high
MTG	<i>Paspalum dilatatum</i>	Paspalum	high	high
MTG	<i>Bromus catharticus</i>	Prairie Grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Bromus diandrus</i>	Great Brome	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Agrostis capillaris</i> s.l.	Brown-top Bent	high	high
MNG	<i>Dactylis glomerata</i>	Cocksfoot	high	high
MNG	<i>Paspalum distichum</i>	Water Couch	high	high
SC	<i>Tradescantia fluminensis</i>	Wandering Jew	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 676: Salt Paperbark Woodland

Description:

Low non-eucalypt woodland to 8 m tall with herbaceous ground-layer dominated by halophytic chenopods and other succulent herbs with a range of annual grasses and herbs. Occurs on heavy soils with large salt concentrations (sometimes with a shallow sand overlay on lake verges) in areas with seasonally waterlogged heavy clay soils on saline flats and lake verges.

Tree Canopy Cover:

%cover	Character Species	Common Name
10%	<i>Melaleuca halmaturorum</i> ssp. <i>halmaturorum</i>	Salt Paperbark

Life forms:

Life form	#Spp	%Cover	LF code
Prostrate Shrub	1	10%	PS
Medium Herb	3	15%	MH
Small or Prostrate Herb	3	10%	SH
Medium to Small Tufted Graminoid	1	1%	MTG
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		45%	

LF Code	Species typical of at least part of EVC range	Common Name
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 pressianus</i>	Salt Angianthus
SH	<i>Apium prostratum</i>	Annual Celery
MTG	<i>Puccinellia stricta</i> var. <i>perlaxa</i>	Plains Saltmarsh-grass

Recruitment:

Continuous

Logs:

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

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>Critiesion 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>Critiesion murinum</i> subsp. <i>glaucum</i>	Blue Barley-grass	high	high

EVC 676: Salt Paperbark Woodland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 677: Inland Saltmarsh (syn. with EVC 101: Samphire Shrubland)

Description:

Low open shrub layer to 0.5 m 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
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		30%	

LF Code	Species typical of at least part of EVC range	Common Name
SS	<i>Halosarcia pruinosa</i>	Bluish Glasswort
SS	<i>Halosarcia halocnemoides</i> ssp. <i>halocnemoides</i>	Grey Glasswort
SS	<i>Halosarcia pergranulata</i>	Blackseed Glasswort
MH	<i>Samolus repens</i>	Creeping Brookweed
MH	<i>Senecio glossanthus</i>	Slender Groundsel
MH	<i>Hymenolobus procumbens</i>	Oval Purse
MH	<i>Brachyscome lineariloba</i>	Hard-head Daisy
SH	<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Rounded Noon-flower
SH	<i>Sarcocornia quinqueflora</i>	Beaded Glasswort
SH	<i>Pogonolepis muelleriana</i>	Stiff Cup-flower
SH	<i>Crassula sieberiana</i>	Sieber Crassula
SH	<i>Selliera radicans</i>	Shiny Swamp-mat
MTG	<i>Triglochin calcitrapum</i> s.l.	Spurred Arrowgrass
MTG	<i>Puccinellia stricta</i> var. <i>perlaxa</i>	Plains Saltmarsh-grass
MNG	<i>Triglochin nanum</i>	Dwarf Arrowgrass
MNG	<i>Distichlis distichophylla</i>	Australian Salt-grass

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>Critetion 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>Critetion murinum</i> subsp. <i>glaucum</i>	Blue Barley-grass	high	high

EVC 677: Inland Saltmarsh (syn. with EVC 101: Samphire Shrubland) – Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 679: Drainage-line Woodland

Description:

Sedge and rush-dominated eucalypt woodland to 15 m tall occurring along intermittent creeks in areas where annual rainfall is less than 500 mm.

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
	<i>Eucalyptus microcarpa</i>	Grey Box

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Large Herb	2	5%	LH
Medium Herb	5	10%	MH
Small or Prostrate Herb	1	1%	SH
Large Tufted Graminoid	3	15%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	20%	MTG
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		60%	

LF Code	Character Species	Common Name
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Acaena echinata</i>	Sheep's Burr
LTG	<i>Carex appressa</i>	Tall Sedge
LTG	<i>Carex tereticaulis</i>	Sedge Rush
MTG	<i>Cyperus gunnii</i> ssp. <i>gunnii</i>	Flecked Flat-sedge
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Lachnagrostis filiformis</i>	Common Blown-grass

Recruitment:

Continuous

Organic Litter:

40% cover

Logs:

20m/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>Cirsium vulgare</i>	Spear Thistle	high	low
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MNG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Romulea rosea</i>	Onion Grass	high	low
MNG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low

EVC 679: Drainage-line Woodland - Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 704: Lateritic Woodland

Description:

Low woodland to 15 m tall with a diverse shrubby understorey and supporting a wide variety of grasses and herbs, making it particularly species-rich. Occurs on gently undulating to flat ground with well-drained shallow lateritic soils of poor fertility.

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 leucoxylon</i>	Yellow Gum
	<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-barked Manna-gum
	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus microcarpa</i>	Grey Box
	<i>Eucalyptus arenacea</i>	Desert Stringybark

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	11	25%	MS
Small Shrub	11	20%	SS
Prostrate Shrub	4	5%	PS
Large Herb	2	5%	LH
Medium Herb	14	10%	MH
Small or Prostrate Herb	4	5%	SH
Large Tufted Graminoid	2	5%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	15	20%	MTG
Medium to Tiny Non-tufted Graminoid	4	5%	MNG
Tiny Tufted Graminoid*	4	1%	TTG
Scrambler or Climber	3	5%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

* Largely seasonal life form

Recruitment:

Continuous

Organic Litter:

20% cover

Logs:

15 m / 0.1 ha

EVC 704: Lateritic Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Brachyloma daphnoides</i>	Daphne Heath
MS	<i>Banksia marginata</i>	Silver Banksia
SS	<i>Pimelea humilis</i>	Common Rice-flower
SS	<i>Astroloma conostephioides</i>	Flame Heath
SS	<i>Hibbertia stricta</i> s.l.	Upright Guinea-flower
SS	<i>Dillwynia sericea</i> s.l.	Showy Parrot-pea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
PS	<i>Acrotriche serrulata</i>	Honey-pots
PS	<i>Styphelia adscendens</i>	Golden Heath
PS	<i>Bossiaea prostrata</i>	Creeping Bossiaea
LH	<i>Ixodia achillaeoides</i> ssp. <i>alata</i>	Ixodia
MH	<i>Drosera peltata</i> ssp. <i>peltata</i>	Pale Sundew
MH	<i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>	Blue Stars
MH	<i>Burchardia umbellata</i>	Milkmaids
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Drosera glanduligera</i>	Scarlet Sundew
SH	<i>Siloxerus multiflorus</i>	Small Wrinklewort
SH	<i>Viola cleistogamoides</i>	Hidden Violet
LTG	<i>Xanthorrhoea australis</i>	Austral Grass-tree
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
LTG	<i>Xanthorrhoea minor</i> ssp. <i>lutea</i>	Small Grass-tree
LNG	<i>Gahnia radula</i>	Thatch Saw-sedge
MTG	<i>Dichelachne crinita</i>	Long-hair Plume-grass
MTG	<i>Pentapogon quadrifidus</i>	Five-awned Spear-grass
MTG	<i>Neurachne alopecuroides</i>	Fox-tail Mulga-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
MNG	<i>Lepidobolus drapetocoleus</i>	Scale Shedder
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Schoenus breviculmis</i>	Matted Bog-sedge
TTG	<i>Isolepis marginata</i>	Little Club-sedge
EP	<i>Amyema miquelii</i>	Box Mistletoe
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Grevillea aquifolium</i>	Variable Prickly Grevillea
SC	<i>Drosera macrantha</i>	Climbing Sundew
SC	<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	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>Arctotheca calendula</i>	Cape Weed	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>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low
MNG	<i>Aira caryophyllea</i>	Silvery Hair-grass	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 709: Scree-slope Woodland

Description:

Eucalypt woodland to 15 m tall with an open shrub layer over a grassy ground layer with small sandstone boulders. Occurs on scree slopes at the base of cliffs where soils are generally shallow and the exposed rocky conditions result in relatively dry well-drained conditions.

Large trees:

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

Tree Canopy Cover:

% cover	Character Species	Common Name
20%	<i>Callitris glaucophylla</i>	White Cypress-pine
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	10%	MS
Small Shrub	2	5%	SS
Prostrate Shrub	2	5%	PS
Large Herb	3	10%	LH
Medium Herb	4	5%	MH
Small or Prostrate Herb	1	1%	SH
Large Tufted Graminoid	1	1%	LTG
Medium to Small Tufted Graminoid	5	25%	MTG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		80%	

Recruitment:

Continuous

Organic Litter:

15% cover

Logs:

20m/0.1 ha.

EVC 709: Scree-slope Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Dodonaea viscosa</i>	Sticky Hop-bush
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Wahlenbergia gracilis</i> s.l.	Sprawling Bluebell
LH	<i>Wahlenbergia stricta</i> s.l.	Tall Bluebell
MH	<i>Plantago hispida</i>	Hairy plantain
MH	<i>Gonocarpus elatus</i>	Tall Raspwort
MH	<i>Galium gaudichaudii</i>	Rough Bedstraw
MH	<i>Daucus glochidiatus</i>	Austral Carrot
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Themeda triandra</i>	Kangaroo Grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
SC	<i>Glycine clandestina</i>	Twinign Glycine

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
MH	<i>Silene gallica</i>	French Catchfly	high	high
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
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	high
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	low
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

Wimmera bioregion

EVC 710: Damp Heathland

Description:

Developed on sites of intermittent waterlogging, typically wet in winter and dry in summer, with low nutrient availability. Closed tall heathland, or scrub if long unburnt. There is a dense ground layer of rushes and sedges, and sometimes emergent eucalypts.

Life Forms:

Life form	#Spp	%Cover	LF code
Medium Shrub	6	30%	MS
Small Shrub	5	20%	SS
Prostrate Shrub	2	5%	PS
Medium Herb	6	10%	MH
Small or Prostrate Herb	2	1%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	4	10%	MTG
Medium to Tiny Non-tufted Graminoid	3	15%	MNG
Scrambler or Climber	2	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>Leptospermum continentale</i>	Prickly Tea-tree
MS	<i>Epacris impressa</i>	Common Heath
MS	<i>Banksia marginata</i>	Silver Banksia
MS	<i>Leptospermum myrsinoides</i>	Heath Tea-tree
SS	<i>Pultenaea stricta</i>	Rigid Bush-pea
SS	<i>Hibbertia fasciculata</i> var. <i>prostrata</i>	Bundled Guinea-flower
SS	<i>Dillwynia glaberrima</i>	Smooth Parrot-pea
SS	<i>Leucopogon glacialis</i>	Twisted Beard-heath
PS	<i>Xanthosia dissecta</i> s.l.	Cut-leaf Xanthosia
MH	<i>Gonocarpus tetragynus</i>	Common Raspwort
MH	<i>Argentipallium obtusifolium</i>	Blunt Everlasting
MH	<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall Sundew
SH	<i>Drosera pygmaea</i>	Tiny Sundew
MTG	<i>Patersonia fragilis</i>	Short Purple-flag
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MNG	<i>Hypolaena fastigiata</i>	Tassel Rope-rush
MNG	<i>Leptocarpus tenax</i>	Slender Twine-rush
MNG	<i>Baumea juncea</i>	Bare Twig-sedge
SC	<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel
SC	<i>Cassytha glabella</i>	Slender Dodder-laurel

Recruitment:

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

Organic Litter:

20% cover

Weediness:

There are no consistent weeds in this EVC.

EVC 710: Damp Heathland – Wimmera bioregion

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 803: Plains Woodland

Description:

Grassy or sedgy woodland to 15 m tall with large inter-tussock spaces potentially supporting a range of annual or geophytic herbs adapted to low summer rainfall, with low overall biomass. Mostly occurs on terrain of low relief in areas receiving <600 mm rainfall per annum. Fertile, sometimes seasonally waterlogged, mostly silty, loamy or clay topsoils, with heavy subsoils, derived largely from former Quaternary swamp deposits.

Large trees:

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

Tree Canopy Cover:

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

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	2	5%	MS
Small Shrub	2	5%	SS
Prostrate Shrub	1	1%	PS
Large Herb	1	1%	LH
Medium Herb	20	25%	MH
Small or Prostrate Herb	4	10%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	1%	LNG
Medium to Small Tufted Graminoid	16	30%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

Recruitment:

Continuous

Organic Litter:

10 % cover

Logs:

10 m/0.1 ha.

EVC 803: Plains Woodland - Wimmera bioregion

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia acinacea</i> s.l.	Gold-dust Wattle
SS	<i>Eutaxia microphylla</i> var. <i>microphylla</i>	Common Eutaxia
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio quadridentatus</i>	Cotton Fireweed
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Plantago gaudichaudii</i>	Narrow Plantain
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Daucus glochidiatus</i>	Austral Carrot
SH	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Austroanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Dianella revoluta</i> s.s.	Black-anther Flax-lily
MTG	<i>Austroanthonia caespitosa</i>	Common Wallaby-grass
MNG	<i>Wurmbea dioica</i>	Common Early Nancy
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
EP	<i>Amyema miquelii</i>	Box Mistletoe
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Sonchus oleraceus</i>	Common 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>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Arctotheca calendula</i>	Cape Weed	high	low
MH	<i>Petrorhagia velutina</i>	Velvety Pink	high	low
MH	<i>Trifolium dubium</i>	Suckling Clover	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
LNG	<i>Avena fatua</i>	Wild Oat	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
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MNG	<i>Vulpia 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

Wimmera 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
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
Total understorey projective foliage cover		70%	

LF Code	Species typical of at least part of EVC range	Common Name
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 sonderi</i>	Pale Beauty-heads
SH	<i>Epilates 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 - Wimmera 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 - Wimmera 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

Wimmera bioregion

EVC 824: Woorinen Mallee

Description:

Widespread mallee woodland to 12 m tall, associated with the east-west orientated calcareous dunefields of the Woorinen Formation with a low, open chenopod dominated shrub understorey. A diverse array of sub-shrubs, forbs and grasses are also present. Typically occurs on fine textured red-brown sandy loam and clay loam soils.

Large trees:

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

Tree Canopy Cover:

% cover	Character Species	Common Name
25%	<i>Eucalyptus oleosa</i> ssp. <i>oleosa</i>	Oil Mallee
	<i>Eucalyptus dumosa</i>	Dumosa Mallee
	<i>Eucalyptus gracilis</i>	Yorrell
	<i>Eucalyptus calycogona</i>	Red Mallee
	<i>Eucalyptus socialis</i>	Grey mallee
	<i>Eucalyptus cyanophylla</i>	Blue-leaved Mallee

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	6	10%	MS
Small Shrub	6	20%	SS
Medium Herb*	6	10%	MH
Small or Prostrate Herb	7	10%	SH
Medium to Small Tufted Graminoid	1	1%	MTG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	15%	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
MS	<i>Santalum acuminatum</i>	Sweet Quandong
MS	<i>Exocarpos aphyllus</i>	Leafless Ballart
MS	<i>Acacia oswaldii</i>	Umbrella Wattle
MS	<i>Myoporum platycarpum</i>	Sugarwood
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
SS	<i>Chenopodium curvispicatum</i>	Cottony Goosefoot
SS	<i>Eremophila glabra</i>	Common Emu-bush
SS	<i>Olearia muelleri</i>	Mueller Daisy-bush
MH	<i>Zygophyllum apiculatum</i>	Pointed Twin-leaf
MH	<i>Stenopetalum lineare</i>	Narrow Thread-petal
MH	<i>Eriochiton sclerolaenoides</i>	Wooly-fruit Bluebush
MH	<i>Brachyscome ciliaris</i>	Variable Daisy
SH	<i>Calandrinia eremaea</i>	Small Purslane
SH	<i>Ptilotus seminudus</i>	Rabbit Tails
SH	<i>Rhodanthe pygmaea</i>	Pygmy Sunray
SH	<i>Isoetopsis graminifolia</i>	Grass Cushion
MTG	<i>Austrostipa elegantissima</i>	Feather Spear-grass

EVC 824: Woorinen Mallee - Wimmera bioregion

Recruitment:

Continuous (excluding overstorey)

Organic Litter:

20% cover

Logs:

20m/0.1 ha. (note: large log class does not apply)

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Olea europaea</i> subsp. <i>europaea</i>	Olive	high	high
MS	<i>Lycium ferocissimum</i>	Boxthorn	high	high
LH	<i>Opuntia</i> spp.	Cactus	high	high
LH	<i>Croton</i> spp.	Barley-grass	high	low
LH	<i>Gazania linearis</i>	Gazania	high	high
LH	<i>Psilocaulon granulicaule</i>	Noon-flower	high	high
LH	<i>Sisymbrium erysimoides</i>	Smooth Mustard	high	high
LH	<i>Sisymbrium irio</i>	London Mustard	high	high
MH	<i>Brassica tournefortii</i>	Mediterranean Turnip	high	high
MH	<i>Carpobrotus aequilaterus</i>	Angled Pigface	high	high
MH	<i>Medicago</i> spp.	Medic	high	low
MH	<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	low
MH	<i>Mesembryanthemum nodiflora</i>	Ice-plant	high	high
MH	<i>Carrichtera annua</i>	Ward's Weed	high	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	<i>Silene gallica</i>	French Catchfly	high	low
MH	<i>Silene nocturna</i>	Mediterranean Catchfly	high	low
MH	<i>Limonium sinuatum</i>	Notch-leaf Sea-lavender	high	high
MH	<i>Limonium lobatum</i>	Winged Sea-lavender	high	high
SH	<i>Mesembryanthemum crystallinum</i>	Common Ice-plant	high	high
MNG	<i>Schismus barbatus</i>	Arabian Grass	high	low
MTG	<i>Asphodelus fistulosus</i>	Onion Weed	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MNG	<i>Bromus</i> spp.	Brome	high	high
MNG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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.

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

Large trees⁺:

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

Tree Canopy Cover⁺:

% 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 ⁺		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>Austroanthonia duttoniana</i>	Brown-back Wallaby-grass

EVC 826: Plains Savannah - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

5% cover

Logs⁺:

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>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 hystrix</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>Pentaschistis 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

Wimmera 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.

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
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
LNG	<i>Avena fatua</i>	Wild Oat	high	high
MH	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover	high	high
MH	<i>Arctotheca calendula</i>	Cape Weed	high	high
MH	<i>Limonium sinuatum</i>	Notch-leaf Sea-lavender	high	high
MH	<i>Plantago coronopus</i>	Buck's-horn Plantain	high	high
MH	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover	high	high
MTG	<i>Romulea minutiflora</i>	Small-flower Onion-grass	high	high
MTG	<i>Poa bulbosa</i>	Bulbous Meadow-grass	high	high
SH	<i>Medicago polymorpha</i>	Burr Medic	high	high
MS	<i>Lycium ferocissimum</i>	African Box-thorn	high	high
MTG	<i>Pentstemon airoides</i> subsp. <i>airoides</i>	False Hair-grass	high	low
MNG	<i>Aira cupaniana</i>	Quicksilver Grass	high	low

EVC 826_61: Treed Plains Savannah

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Trifolium striatum</i>	Knotted Clover	high	low
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	low
MH	<i>Spergularia rubra s.l.</i>	Red Sand-spurrey	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
LH	<i>Lepidium africanum</i>	Common Peppergrass	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
SH	<i>Medicago minima</i>	Little Medic	high	high
LH	<i>Salvia verbenaca</i>	Wild Sage	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 hystris</i>	Mediterranean Barley-grass	high	high
MTG	<i>Hordeum murinum s.l.</i>	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 var. arvense</i>	Hare's-foot Clover	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera 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	1	10%	MS
Small Shrub	6	30%	SS
Large Herb	1	1%	LH
Medium Herbs*	5	15%	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 billardiarei</i>	Nitre-bush
SS	<i>Sclerolaena diacantha</i>	Grey Copperburr
SS	<i>Maireana aphylla</i>	Leafless Bluebush
SS	<i>Minuria cunninghamii</i>	Bush Minuria
SS	<i>Lawrenzia squamata</i>	Thorny Lawrenzia
PS	<i>Atriplex semibaccata</i>	Berry Saltbush
LH	<i>Podolepis canescens</i>	Grey Podolepis
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

EVC 829: Chenopod Grassland - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

5% cover

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

Wimmera bioregion

EVC 882_61: Higher Rainfall Shallow Sands 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. Occurs in areas with >500 mm annual rainfall.

Large trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus melliodora</i>	Yellow Box
	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<i>Allocasuarina luehmannii</i>	Buloke

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	15%	MS
Small Shrub	3	10%	SS
Prostrate Shrub	2	5%	PS
Large Herb	1	1%	LH
Medium Herb	14	20%	MH
Small or Prostrate Herb	4	5%	SH
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>Allocasuarina verticillata</i>	Drooping Sheoke
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Acacia pycnantha</i>	Golden Wattle
SS	<i>Hibbertia stricta</i> s.l.	Upright Guinea-flower
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
SS	<i>Pultenaea hispidula</i>	Rusty Bush-pea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Microseris scapigera</i> spp. agg.	Yam Daisy
MH	<i>Acaena echinata</i>	Sheep's Burr
SH	<i>Daucus glochidiatus</i>	Australian Carrot
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Drosera whittakeri</i> ssp. <i>aberrans</i>	Scented Sundew
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Neurachne alopecuroidea</i>	Fox-tail Mulga-grass
MTG	<i>Lomandra nana</i>	Dwarf Mat-rush
MTG	<i>Arthropodium strictum</i> s.l.	Chocolate Lily
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Aphelia pumilio</i>	Dwarf Aphelia
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

EVC 882_61: *Higher Rainfall* Shallow Sands Woodland - Wimmera 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

Wimmera bioregion

EVC 882_62: *Lower Rainfall* Shallow Sands 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. Occurs in areas with <500 mm annual rainfall.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	60 cm	15/ha
<i>Allocasuarina luehmannii</i>	40 cm	
<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	40 cm	

Tree Canopy Cover:

% cover	Character Species	Common Name
20%	<i>Eucalyptus leucoxylon</i>	Yellow Gum
	<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		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	10%	MS
Small Shrub	4	20%	SS
Prostrate Shrub	2	5%	PS
Large Herb	1	1%	LH
Medium Herb	7	15%	MH
Small or Prostrate Herb	3	5%	SH
Medium to Small Tufted Graminoid	8	25%	MTG
Tiny Tufted Graminoid*	2	1%	TTG
Medium to Tiny Non-tufted Graminoid	3	1%	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>Allocasuarina verticillata</i>	Drooping Sheoke
MS	<i>Calytrix tetragona</i>	Common Fringe-myrtle
MS	<i>Acacia pycnantha</i>	Golden Wattle
SS	<i>Hibbertia stricta</i> s.l.	Upright Guinea-flower
SS	<i>Eutaxia microphylla</i>	Common Eutaxia
SS	<i>Pultenaea hispidula</i>	Rusty Bush-pea
PS	<i>Astroloma humifusum</i>	Cranberry Heath
MH	<i>Microseris scapigera</i> spp. agg.	Yam Daisy
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Wurmbea dioica</i>	Common Early Nancy
SH	<i>Daucus glochidiatus</i>	Australian Carrot
SH	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
SH	<i>Drosera whittakeri</i> ssp. <i>aberrans</i>	Scented Sundew
LTG	<i>Austrostipa mollis</i>	Supple Spear-grass
MTG	<i>Schoenus apogon</i>	Common Bog-sedge
MTG	<i>Neurachne alopecuroides</i>	Fox-tail Mulga-grass
MTG	<i>Lomandra nana</i>	Dwarf Mat-rush
MTG	<i>Arthropodium strictum</i> s.l.	Chocolate Lily
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
TTG	<i>Aphelia pumilio</i>	Dwarf Aphelia
SC	<i>Thysanotus patersonii</i>	Twining Fringe-lily

EVC 882_62: *Lower Rainfall* Shallow Sands Woodland - Wimmera bioregion

Recruitment:

Continuous

Organic Litter:

20% 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
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	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	high
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
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 895: Escarpment Shrubland

Description:

Occurs on rocky escarpments in steep valleys or gorges, associated with limestone or basalt. Sites have moderate to high fertility, are well-drained but subject to regular summer drought due to shallow soils. Eucalypt woodland to 15 m tall or non-eucalypt shrubland to 8 m tall, sometimes with occasional eucalypts; lichen-covered rock outcrops are common.

* eucalypt woodland only components (ignore when assessing shrubland areas and standardise site condition score as required)

Large trees*:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Acacia implexa</i>	Lightwood
	<i>Allocasuarina verticillata</i>	Drooping Sheoak
	<i>Acacia mearnsii</i>	Black Wattle
	<i>Bursaria spinosa</i>	Sweet Bursaria
	<i>Eucalyptus ovata</i>	Swamp Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree*		5%	IT
Understorey Tree or Large Shrub*	3	10%	T
Medium Shrub	2	10%	MS
Small Shrub	2	5%	SS
Large Herb	3	5%	LH
Medium Herb	4	10%	MH
Small or Prostrate Herb	5	5%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	9	25%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Hymenanthera dentata</i> s.l.	Tree Violet
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
LH	<i>Wahlenbergia communis</i> s.l.	Tufted Bluebell
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>	Nodding Saltbush
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Austrostipa bigeniculata</i>	Knead Spear-grass
MTG	<i>Austrodanthonia racemosa</i> var. <i>racemosa</i>	Stiped Wallaby-grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MNG	<i>Panicum effusum</i>	Hairy Panic
SC	<i>Clematis microphylla</i>	Small-leaved Clematis
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

Recruitment:

Continuous

Organic Litter:

20 % cover

EVC 895: Escarpment Shrubland - Wimmera bioregion

Logs:

15 m/0.1 ha⁺.

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

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
T	<i>Schinus molle</i>	Pepper Tree	low	high
MS	<i>Lycium ferocissimum</i>	African Box-thorn	low	high
MS	<i>Genista monspessulana</i>	Montpellier Broom	low	high
SS	<i>Marrubium vulgare</i>	Horehound	low	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
LH	<i>Helminthotheca echinoides</i>	Ox-tongue	high	high
LH	<i>Lactuca serriola</i>	Prickly Lettuce	high	low
LH	<i>Sisymbrium officinale</i>	Hedge Mustard	high	high
LH	<i>Sonchus asper</i> s.l.	Rough Sow-thistle	high	low
LH	<i>Verbascum thapsus</i> ssp. <i>thapsus</i>	Great Mullein	high	high
LH	<i>Echium plantagineum</i>	Paterson's Curse	high	high
LH	<i>Centaurea tenuiflorum</i>	Slender Centaury	high	low
LH	<i>Foeniculum vulgare</i>	Fennel	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	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>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>Lotus suaveolens</i>	Hairy Bird's-foot Trefoil	high	low
MH	<i>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed	high	low
SH	<i>Medicago polymorpha</i>	Burr Medic	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low
SH	<i>Modiola caroliniana</i>	Red-flower Mallow	high	low
SH	<i>Aptenia cordifolia</i>	Heart-leaf Ice-plant	high	high
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Nassella trichotoma</i>	Serrated Tussock	high	high
MTG	<i>Ehrharta longiflora</i>	Annual Veldt-grass	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Sporobolus africanus</i>	Rat-tail Grass	high	high
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Pentstemonis airoides</i> ssp. <i>airoides</i>	False Hair-grass	high	low
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	high
MTG	<i>Dactylis glomerata</i>	Cocksfoot	high	high
MTG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MTG	<i>Bromus rubens</i>	Red Brome	high	low
MTG	<i>Avena barbata</i>	Bearded Oat	high	low
MTG	<i>Aira caryophylla</i>	Silvery Hair-grass	high	low
SC	<i>Vicia sativa</i> ssp. <i>sativa</i>	Common Vetch	low	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera Bioregion

EVC 895_61: Treed Escarpment Shrubland

Description:

Occurs on rocky escarpments in steep valleys or gorges, associated with limestone or basalt. Sites have moderate to high fertility, are well-drained but subject to regular summer drought due to shallow soils. Eucalypt woodland to 15 m tall or non-eucalypt shrubland to 8 m tall, sometimes with occasional eucalypts. Lichen-covered rock outcrops are common.

Large Trees:

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

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Acacia implexa</i>	Lightwood
	<i>Allocasuarina verticillata</i>	Drooping Sheoak
	<i>Bursaria spinosa</i>	Sweet Bursaria
	<i>Eucalyptus ovata</i>	Swamp Gum
	<i>Acacia mearnsii</i>	Black Wattle

Understorey:

Lifeform	#Spp	%Cover	LF Code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	3	10%	T
Medium Shrub	2	10%	MS
Small Shrub	2	5%	SS
Large Herb	3	5%	LH
Medium Herb	4	10%	MH
Small or Prostrate Herb	5	5%	SH
Large Tufted Graminoid	1	5%	LTG
Large Non-Tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	9	25%	MTG
Medium to Tiny Non-Tufted Graminoid	3	5%	MNG
Scrambler or Climber	1	5%	SC
Bryophytes/Lichens		10%	BL
Soil Crust		20%	S/C

EVC 895_61: Treed Escarpment Shrubland

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Various spp.</i>	
MS	<i>Melicytus dentatus s.l.</i>	Tree Violet
SS	<i>Enchylaena tomentosa var. tomentosa</i>	Ruby Saltbush
LH	<i>Wahlenbergia communis s.l.</i>	Tufted Bluebell
MH	<i>Einadia nutans subsp. nutans</i>	Nodding Saltbush
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Dichondra repens</i>	Kidney-weed
LTG	<i>Austrostipa bigeniculata</i>	Kneed Spear-grass
LNG	<i>Various spp.</i>	
MTG	<i>Austrodanthonia racemosa var. racemosa</i>	Stiped Wallaby-grass
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MNG	<i>Panicum effusum</i>	Hairy Panic
SC	<i>Clematis microphylla</i>	Small-leaved Clematis
SC	<i>Convolvulus erubescens spp. agg.</i>	Pink Bindweed

Recruitment:

Continuous.

Organic Litter:

20 % cover

Logs:

15 m/0.1ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Verbascum thapsus subsp. thapsus</i>	Great Mullein	high	high
SH	<i>Aptenia cordifolia</i>	Heart-leaf Ice-plant	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
LH	<i>Sisymbrium officinale</i>	Hedge Mustard	high	high
MTG	<i>Sporobolus africanus</i>	Rat-tail Grass	high	high
LH	<i>Echium plantagineum</i>	Paterson's Curse	high	high
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	high
MTG	<i>Nassella trichotoma</i>	Serrated Tussock	high	high
LH	<i>Helminthotheca echioides</i>	Ox-tongue	high	high
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LH	<i>Foeniculum vulgare</i>	Fennel	high	high
MTG	<i>Dactylis glomerata</i>	Cocksfoot	high	high
MTG	<i>Aira caryophyllaea</i>	Silvery Hair-grass	high	low
MTG	<i>Avena barbata</i>	Bearded Oat	high	low
MTG	<i>Bromus rubens</i>	Red Brome	high	low
MTG	<i>Vulpia myuros</i>	Rat's-tail Fescue	high	low
MTG	<i>Pentstemonis airoides subsp. airoides</i>	False Hair-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 subsp. hordeaceus</i>	Soft Brome	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MH	<i>Trifolium arvense var. arvense</i>	Hare's-foot Clover	high	low
LH	<i>Centaurea tenuiflorum</i>	Slender Centaury	high	low
LH	<i>Lactuca serriola</i>	Prickly Lettuce	high	low
MH	<i>Trifolium campestre var. campestre</i>	Hop Clover	high	low
MH	<i>Trifolium angustifolium var. angustifolium</i>	Narrow-leaf Clover	high	low
MH	<i>Lotus subbiflorus</i>	Hairy Bird's-foot Trefoil	high	low
SH	<i>Medicago polymorpha</i>	Burr Medic	high	low
SH	<i>Trifolium glomeratum</i>	Cluster Clover	high	low

EVC 895_61: Treed Escarpment Shrubland

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
SH	<i>Modiola caroliniana</i>	Red-flower Mallow	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Ehrharta longiflora</i>	Annual Veldt-grass	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LH	<i>Sonchus asper s.l.</i>	Rough Sow-thistle	high	low
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
MH	<i>Cerastium glomeratum s.l.</i>	Common Mouse-ear Chickweed	high	low
MS	<i>Lycium ferocissimum</i>	African Box-thorn	low	high
MS	<i>Genista monspessulana</i>	Montpellier Broom	low	high
SS	<i>Marrubium vulgare</i>	Horehound	low	high
T	<i>Schinus molle</i>	Pepper Tree	low	high
SC	<i>Vicia sativa subsp. sativa</i>	Common Vetch	low	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Wimmera bioregion

EVC 981: Parilla Mallee

Description:

Typically tall open Mallee to 10 m tall supported by shallow accumulations of aeolian material that have been deposited on the slopes of prominent Parilla Sandstone ridges. The understorey is highly variable comprising numerous floristic variants many of which appear to be strongly influenced by land use and fire regime. A well-developed woody shrub layer is typical in relatively undisturbed remnants.

Large trees:

Species	DBH(cm)	# /ha
<i>Eucalyptus</i> spp.	20 cm	25/ha
<i>Callitris</i> spp.	35 cm	

Tree Canopy Cover:

% cover	Character Species	Common Name
25%	<i>Eucalyptus oleosa</i> ssp. <i>oleosa</i>	Oil Mallee
	<i>Eucalyptus socialis</i>	Grey Mallee
	<i>Eucalyptus dumosa</i>	Dumosa Mallee
	<i>Callitris gracilis</i> ssp. <i>murrayensis</i>	Slender Cypress-pine

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Medium Shrub	4	10%	MS
Small Shrub	3	10%	SS
Large Herb	1	1%	LH
Medium Herb	3	5%	MH
Small or Prostrate Herb	5	5%	SH
Medium to Small Tufted Graminoid	6	20%	MTG
Medium to Tiny Non-tufted Graminoid	1	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C
Total understorey projective foliage cover		70%	

LF Code	Species typical of at least part of EVC range	Common Name
MS	<i>Pittosporum angustifolium</i>	Weeping Pittosporum
MS	<i>Melaleuca lanceolata</i> ssp. <i>lanceolata</i>	Moonah
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Acacia brachybotrya</i>	Grey Mulga
SS	<i>Olearia lanuginosa</i>	Wooly Daisy-bush
SS	<i>Westringia rigida</i>	Stiff Westringia
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	Ruby Saltbush
SS	<i>Maireana brevifolia</i>	Short-leaf Bluebush
MH	<i>Helichrysum leucopsidium</i>	Satin Everlasting
SH	<i>Daucus glochidiatus</i>	Austral Carrot
SH	<i>Calandrinia calyptata</i>	Pink Purslane
MTG	<i>Austrostipa</i> spp.	Spear-grass
MTG	<i>Dianella revoluta</i> s.l.	Black-anther Flax-lily
MTG	<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
MTG	<i>Austrodanthonia caespitosa</i>	Common Wallaby-grass
MNG	<i>Austrostipa elegantissima</i>	Feather Spear-grass
MNG	<i>Austrostipa platychaeta</i>	Flat-awned Spear-grass
MNG	<i>Austrostipa eremophila</i>	Desert Spear-grass
SC	<i>Clematis microphylla</i>	Small-leaved Clematis

EVC 981: Parilla Mallee - Wimmera bioregion

Recruitment:

Continuous (excluding eucalypt overstorey)

Organic Litter:

20% cover

Logs:

15m/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>Brassica tournefortii</i>	Mediterranean Turnip	high	high
LH	<i>Centaureum tenuiflorum</i>	Slender Centaury	high	low
LH	<i>Gazania linearis</i>	Gazania	high	high
LH	<i>Sysimbrium</i> spp.	Mustard	high	high
LH	<i>Opuntia robusta</i>	Wheel Cactus	high	high
MH	<i>Mesembryanthemum nodiflora</i>	Ice-plant	high	high
MH	<i>Carrichtera annua</i>	Ward's Weed	high	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
SH	<i>Mesembryanthemum crystallinum</i>	Common Ice-plant	high	high
MNG	<i>Bromus</i> spp.	Brome	high	high
MNG	<i>Schismus barbatus</i>	Arabian Grass	high	low
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
SC	<i>Asparagus asparagoides</i>	Bridal Creeper	high	high

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