Murray Mallee 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 Eucalyptus spp. Allocasuarina sp Callitris spp.	p.	<b>DBH(cm)</b> 60 cm 40 cm 40 cm		<b>/ha</b> )/ha		
Tree Canopy Co % cover 20%	over: Character Species Eucalyptus melliodora Eucalyptus microcarpa Callitris gracilis ssp. murrayens Callitris glaucophylla Allocasuarina luehmannii	is	<b>Common Name</b> Yellow Gum Grey Box Slender Cypress-pine White Cypress-pine Buloke		n press-pine	
Medium Shrub Small Shrub Large Herb Medium Herb Small or Prostrat Medium to Small Medium to Small Medium to Tiny Bryophytes/Licho Soil Crust <b>Total unders</b> <b>LF Code</b> T T MS MS MS MS MS MS SS SS MH SH SH SH SH SH SH SH SH SH SH SH SH SH	e or Large Shrub te Herb I Tufted Graminoid Non-tufted Graminoid	2 5 3 1 3 2 7 1 1 n 0 ver	a a	5% 5% 15% 5% 1% 25% 1% 10% <b>70</b> %	5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	LF code IT T MS SS LH MH SH MTG MNG BL S/C mon Name ing Pittosporum wood n Wattle ewood Bursaria ella Wattle on Eutaxia ea Daisy-bush New Holland Daisy ess Bluebush af Goodenia and Wood-sorrel ole Sida Sword-sedge non Wheat-grass ill Grass Wallaby-grass er Spear-grass



Continuous

#### **Organic Litter:** 15% cover

Logs:

20m/0.1 ha.

#### Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
Т	Olea europaea	Olive	high	high
MS	Lycium ferocissimum	Boxthorn	high	high
LH	Centaurium tenuiflorum	Slender Centaury	high	low
LH	Gazania linearis	Gazania	high	high
LH	Opuntia robusta	Wheel Cactus	high	high
MH	Hypochoeris radicata	Cat's Ear	high	low
MH	Hypochoeris glabra	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	Petrorhagia velutina	Velvety Pink	high	low
MH	Oxalis pes-caprae	Soursob	high	high
MTG	Briza minor	Lesser Quaking-grass	high	low
MTG	Briza maxima	Large Quaking-grass	high	low
MTG	Romulea rosea	Onion Grass	high	high
MTG	Vulpia bromoides	Squirrel-tail Fescue	high	high
MTG	Lolium rigidum	Wimmera Rye-grass	high	low
MNG	Aira elegantissima	Delicate Hair-grass	high	low
MNG	Ehrharta calycina	Perennial Veldt Grass	high	high
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	high
MNG	Juncus capitatus	Capitate Rush	high	low
MNG	Bromus rubens	Red Brome	high	high
TTG	Poa bulbosa	Bulbous Meadow-grass	high	high
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee bioregion

# EVC 86: Woorinen Sands Mallee

## **Description:**

Mallee shrubland to 7 m tall, typically supporting a hummock grass (*Triodia* spp.) dominated understorey. This EVC could be considered intermediate between the heavier soil mallee woodlands and the lighter sandy soil mallee vegetation predominant on Lowan (siliceous) sand.

Large trees: Species		DBH(cm)	#/ha	
<i>Eucalyptus</i> sp	р.	15 cm 3	30/ha	
Tree Canopy % cover 25%	<b>Cover:</b> <b>Character Species</b> <i>Eucalyptus dumosa</i> <i>Eucalyptus leptophylla</i> <i>Eucalyptus socialis</i>			<b>Common Name</b> Dumosa Mallee Slender-leaf Mallee Grey Mallee
Medium to Tir Bryophytes/Li Soil Crust * Largely season	o ub crate Herb* ass nall Tufted Graminoid ny Non–tufted Graminoid chens	<b>#Spp</b> 4 2 1 6 6 1 3 1 na na na	<b>%Co</b> 5% 5% 5% 5% 15% 5% 1% 10% 10% <b>65%</b>	MS SS PS MH SH HG MTG MNG BL S/C
LF Code MS MS MS SS SS SS SS LH LH H H MH MH MH SH SH SH SH SH SH SH SH SH SH SH SH SH	Species typical of at least par Melaleuca lanceolata ssp. lanceolata Myoporum platycarpum Dodonaea bursariifolia Acacia wilhelmiana Sclerolaena parviflora Halgania cyanea Sclerolaena diacantha Westringia rigida Helichrysum leucopsideum Waitzia acuminata var. acuminata Podolepis capillaris Goodenia willisiana Vittadinia dissecta Podotheca angustifolia Actinobole uliginosum Calotis hispidula Crassula sieberiana Ptilotus seminudis Triodia scariosa Austrostipa mollis Lomandra effusa Lomandra leucocephala ssp. robusta Austrostipa elegantissima		ge	<b>Common Name</b> Moonah Sugarwood Small Hop-bush Dwarf Nealie Mallee Copperburr Rough Halgania Grey Copperburr Stiff Westringia Satin Everlasting Orange Immortelle Invisible Daisy Sandhill Goodenia Dissected New Holland Daisy Sticky Long-heads Flannel Cudweed Hairy Burr-daisy Australian Stonecrop Rabbit-tails Porcupine Grass Supple Spear-grass Scented Mat-rush Woolly Mat-rush Feather Spear-grass



Continuous

#### **Organic Litter:**

15% cover

W----

#### Logs:

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

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

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Murray Mallee bioregion

# EVC 87: Lowan Sands Mallee

### **Description:**

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

Tree Canopy	y Cover:			
% cover	Character Species		Commo	n Name
25%	Eucalyptus arenacea		Desert St	ringvbark
	Eucalyptus incrassata		Yellow Ma	allee
Understorey	/:			
Life form		#Spp	%Cover	LF code
Medium Shru	ub	5	35%	MS
Small Shrub		7	30%	SS
Prostrate Sh	rub	1	1%	PS
Medium Herl	b	4	10%	MH
Large Tufted	rge Tufted Graminoid 1		1%	LTG
Medium to S	Small Tufted Graminoid	5	5%	MTG
Medium to T	iny Non-tufted Graminoid	2	10%	MNG
Total und	erstorey projective foliage cover		<b>60%</b>	
LF Code	Creation trained of at least yout of		<b>C</b>	nmon Name
	Species typical of at least part of	r EVC range		
MS MS	Leptospermum myrsinoides Banksia marginata			h Tea-tree r Banksia
MS	Callitris rhomboidea			
MS	Allocasuarina pusilla s.1.			er Bay Cypress-pine f Sheoak
SS	Allocasuarina pusilia s.i. Hibbertia sericea s.i.			Guinea-flower
SS	Isopogon ceratophyllus		,	
SS	Hibbertia virgata			y Cone-bush
SS	5			gy Guinea-flower
MH	Phyllota pleurandroides Goodenia geniculata			
MH			Bent Goodenia	
MH	Gonocarpus tetragynus	Argentipallium obtusifoliumBlunt EverlastingGonocarpus tetragynusCommon Raspwort		5
MH	Wahlenbergia gracilenta s.l.			ial Bluebell
LTG	Xanthorrhoea australis			al Grass-tree
LTG	Austrostipa mollis			le Spear-grass
MTG	Lepidosperma viscidum			y Sword-sedge
MTG	Lepidosperma carphoides			Rapier-sedge
MTG	Neurachne alopecuroidea			ail Mulga-grass
MTG	Lomandra juncea			rt Mat-rush
MNG	Hypolaena fastigiata			el Rope-rush
MNG	Lepidobolus drapetocoleus			e Shedder
TTG	Centrolepis strigosa ssp. strigosa			Centrolepis
TTG	Schoenus breviculmis			ed Bog-sedge
SC	Cassytha glabella			der Dodder-laurel
SC	Cassytha pubescens s.s.			ny Dodder-laurel
20			2011	,



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

#### **Organic Litter:**

5% cover

Logs:

5 m/0.1 ha. (note: large log class is not applicable)

#### Weediness:

LF	Code
MN	G
SC	

**Typical Weed Species** Ehrharta calycina Asparagus asparagoides

**Common Name** Perennial Veldt Grass Bridal Creeper

Invasive high high

Impact high high

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Murray Mallee bioregion

# EVC 88: Heathy Mallee

### **Description:**

Low mallee shrubland to low open mallee shrubland to 4 m 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 25%	<b>Cover:</b> <b>Character Species</b> <i>Eucalyptus incrassata</i> <i>Eucalyptus leptophylla</i> <i>Eucalyptus arenacea</i>		<b>Common Name</b> Yellow Mallee Slender-leaf Mallee Desert Stringybark	
Understorey Life form Medium Shru Small Shrub Large Herb Medium Herb	b	<b>#Spp</b> 6 7 2 3	<b>%Cover</b> 30% 20% 1% 5%	<b>LF code</b> MS SS LH MH
Hummock Gra Large Tufted Medium to Sr Medium to Ti Soil Crust	ass	1 1 3 2 na	5% 1% 5% 5% 10% <b>55%</b>	HG LTG MTG MNG S/C
LF Code MS MS MS SS SS SS SS LH MH HG LTG MTG MTG MTG MTG MTG MTG MTG SC SC SC	Species typical of at least part Calytrix tetragona Hakea mitchellii Leptospermum coriaceum Babingtonia behrii Hibbertia riparia Baeckea crassifolia Stenanthemum leucophractum Cryptandra tomentosa Helichrysum leucopsideum Goodenia geniculata Goodenia geniculata Goodenia robusta Triodia scariosa Austrostipa mollis Lepidosperma viscidum Lepidosperma carphoides Lomandra juncea Lomandra collina Lepidobolus drapetocoleus Hypolaena fastigiata Schoenus breviculmis Cassytha glabella Billardiera cymosa s.l.	of EVC range	Com Dese Malle Broon Erect Dese White Prick Satin Bent Wool Porcu Supp Stick Black Dese Pale Scale Tasse Matte Slenc	mon Name mon Fringe-myrtle rt Hakea e Tea-tree m Baeckea c Guinea-flower rt Baeckea e Cryptandra e Cryptandra e Cryptandra ty Cryptandra Everlasting Goodenia ly Goodenia upine Grass le Spear-grass y Sword-sedge t Mat-rush Mat-rush e Shedder el Rope-rush ed Bog-sedge ler Dodder-laurel et Apple-berry



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 MTG MTG

Typical Weed Species Vulpia myuros Ehrharta calycina

Common Name Rat's-tail Fescue Perennial Veldt Grass Invasive Impact high high high high

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Murray Mallee 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.

Medium to Ti Soil Crust	ass	<b>#Spp</b> 6 4 1 1 3 2 na	%Cover 50% 20% 5% 1% 1% 5% 5% 5% 10% <b>60%</b>	LF code MS SS MH HG LTG MTG MNG S/C
LF Code MS MS MS SS SS SS SS SS MH MH MH MH HG LTG MTG MTG MTG MTG MTG MTG MTG MTG MTG SC	Species typical of at least part of Leptospermum myrsinoides Banksia marginata Callitris verrucosa Hakea mitchellii Hibbertia riparia Hibbertia virgata Spyridium subochreatum var. subochreat Leucopogon woodsii Goodenia geniculata Podotheca angustifolia Comesperma calymega Argentipallium obtusifolium Triodia scariosa Austrostipa mollis Lepidosperma viscidum Lepidosperma carphoides Lomandra juncea Lomandra leucocephala ssp. robusta Lepidobolus drapetocoleus Hypolaena fastigiata Schoenus breviculmis Cassytha glabella	-	Heatl Silver Scrut Dese Erect Twig Velve Nodd Bent Stick Blue- Blunt Porcu Supp Stick Black Dese Wool Scale Tasse	Imon Name In Tea-tree Panksia Pine t Hakea Guinea-flower gy Guinea-flower gy Guinea-flower t Spyridium ling Beard-heath Goodenia y Heads spike Milkwort Everlasting upine Grass le Spear-grass y Sword-sedge Rapier-sedge t Mat-rush ly Mat-rush Shedder el Rope-rush ed Bog-sedge ler Dodder-laurel

#### **Recruitment:**

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

## **Organic Litter:**

5% cover

#### Weediness: LF Code

MTG MTG **Typical Weed Species** *Vulpia myuros Ehrharta calycina*  Common Name Rat's-tail Fescue

Rat's-tail Fescue Perennial Veldt Grass Invasive high high





# EVC 89: Dunefield Heathland – Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 91: Loamy Sands Mallee

### **Description:**

Semi-arid low mallee shrubland to 5 m tall, typically supporting scattered shrubs above a hummock grass field layer. Typically occurs on deep drifts of Lowan sands in the lee of ridge systems or occupying dune crests and swales in the parabolic and irregularly arranged dune in the Central Mallee and Sunset Country.

% cover       Character Species       Common Name         25%       Eucalyptus incrassata       Yellow Mallee         25%       Eucalyptus leptophylla       Slender-leaf Mallee         Eucalyptus socialis       Grey Mallee         Understorey:         Life form       #Spp         Medium Shrub       5       20%         Small Shrub       5       10%       SS         Large Herb       2       1%       LH         Medium Herb       6       10%       MH         Small or Prostrate Herb       2       1%       SH         Hummock Grass       1       5%       HG         Large Tufted Graminoid       1       1%       LTG         Medium to Small Tufted Graminoid       3       5%       MTG         Bryophytes/Lichens       na       10%       BL	Tree Canopy	y Cover:			
Life form#Spp%CoverLF codeMedium Shrub520%MSSmall Shrub510%SSLarge Herb21%LHMedium Herb610%MHSmall or Prostrate Herb21%SHHummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL	% cover	<b>Character Species</b> Eucalyptus incrassata Eucalyptus leptophylla		Yellow Mallee Slender-leaf Mallee	
Medium Shrub520%MSSmall Shrub510%SSLarge Herb21%LHMedium Herb610%MHSmall or Prostrate Herb21%SHHummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL	Understorey	y:			
Small Shrub510%SSLarge Herb21%LHMedium Herb610%MHSmall or Prostrate Herb21%SHHummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL			#Spp	%Cover	LF code
Large Herb21%LHMedium Herb610%MHSmall or Prostrate Herb21%SHHummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL	Medium Shru	ub			
Medium Herb610%MHSmall or Prostrate Herb21%SHHummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL					
Small or Prostrate Herb21%SHHummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL	0				
Hummock Grass15%HGLarge Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL			-		
Large Tufted Graminoid11%LTGMedium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL				- • •	-
Medium to Small Tufted Graminoid35%MTGBryophytes/Lichensna10%BL			-		
Bryophytes/Lichens na 10% BL	5		-		
		Lichens			
		· · · · · · · · · · · · · · · · · · ·	na	10% S/C	
Total understorey projective foliage cover60%	lotal unde	erstorey projective follage cover		<b>60%</b>	
LF Code Species typical of at least part of EVC range Common Name	LF Code	Species typical of at least part	of EVC range	Con	nmon Name
MS <i>Callitris verrucosa</i> Scrub Cypress-pine			<b>j</b> .	Scrut	o Cypress-pine
MS <i>Leptospermum coriaceum</i> Mallee Tea-tree	MS				
MS Acacia ligulata Sandhill Wattle	MS			Sand	hill Wattle
MS Bertya mitchellii Mitchell Bertya	MS			Mitch	nell Bertya
SS Hibbertia riparia Erect Guinea-flower	SS				
SS Hibbertia virgata Twiggy Guinea-flowe	SS	Hibbertia virgata		Twig	gy Guinea-flower
SS Halgania cyanea Rough Halgania	SS			Roug	h Halgania
SS Brachyloma ericoides ssp. ericoides Brush Heath	SS				
LH Helichrysum leucopsideum Satin Everlasting	LH	Helichrysum leucopsideum		Satin	Everlasting
MH <i>Podotheca angustifolia</i> Sticky Long-heads	MH				
MH Millotia tenuifolia var. tenuifolia Soft Millotia	MH			Soft	Millotia
MH Glischrocaryon behrii Golden Pennants					
MHPodolepis capillarisInvisible Plant	MH			Invis	ible Plant
SH Actinobole uliginosum Flannel Cudweed	SH			Flanr	nel Cudweed
SH Millotia muelleri Common Bow-flower					
SH Calotis hispidula Hairy Burr-daisy					
HG Triodia scariosa Porcupine Grass					•
LTG Austrostipa mollis Supple Spear-grass					
MTG Lomandra leucocephala ssp. robusta Woolly Mat-rush					
MTG Austrodanthonia setacea Bristly Wallaby-grass					
MTG <i>Lepidosperma viscidum</i> Sticky Sword-sedge					
MTG Lomandra collina Pale Mat-rush					
SC <i>Thysanotus patersonii</i> Twining Fringe-lily	SC	i nysanotus patersonii		Iwin	ing Fringe-Illy



Episodic/Fire. Desirable period between disturbances is 20 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
LH	Sonchus oleraceus	Common Sow-thistle	high	low
MH	Hypochoeris glabra	Smooth Cat's-ear	high	low
MNG	Ehrharta calycina	Perennial Veldt Grass	high	high
MNG	Vulpia myuros	Rat's-tail Fescue	high	low
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee bioregion

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

### **Description:**

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

<sup>+</sup> mallee <u>only</u> component (ignore when assessing shrubland areas and standardise final score as appropriate)

Tree Canopy %cover 15%	<b>r Cover<sup>+</sup>:</b> Character Species Eucalyptus incrassata Eucalyptus leptophylla		<b>Commo</b> Yellow Ma Slender-le		
Understorey	<i>'</i> :				
Life form		#Spp	%Cover	LF code	
Medium Shru	ıb	4	40%	MS	
Small Shrub		4	5%	SS	
Medium Hert		2	5%	MH	
Large Tufted		1	1%	LTG	
	mall Tufted Graminoid	3	5%	MTG	
Tiny Tufted (		1	1%	TTG	
Bryophytes/L	Lichens	na	10%	BL	
Soil Crust		na	15%	S/C	
Total understorey projective foliage cover60%					
LF Code	Species typical of at least p	art of EVC range	Con	nmon Name	
MS	Melaleuca uncinata	-	Broo	mbush	
MS	Babingtonia behrii			m Baeckea	
MS	Callitris verrucosa		Scrul	o Cypress-pine	
MS	Hakea mitchellii			rt Hakea	
SS	Hibbertia riparia		Erect Guinea-flower		
SS	Eutaxia microphylla		Common Eutaxia		
SS	Hibbertia virgata		Twiggy Guniea-flower		
SS	Micromyrtus ciliata		Heath-myrtle		
MH	Helichrysum leucopsideum			Everlasting	
MH	Glischrocaryon behrii			en Pennants	
MH	Podotheca angustifolia		Sticky Long-heads		
LTG	Austrostipa mollis			le Spear-grass	
MTG	Lepidosperma viscidum			y Sword-sedge	
MTG	Neurachne alopecuroidea			ail Mulga-grass	
MTG	<i>Dianella revoluta</i> s.l.			-anther Flax-lily	
MTG	Austrodanthonia setacea			y Wallaby-grass	
SC	Thysanotus patersonii			ing Fringe-lily	
SC	Billardiera cymosa s.l.		Swee	et Apple-berry	
Recruitment	:				
	. Desirable period between disturbanc	es is 20 years.			

### **Organic Litter:**

10% cover

### Weediness:

LF Code	Typical Weed Species
MH	Hypochoeris glabra
MTG	Pentaschistis airoides subsp. airoides
MTG	Ehrharta calycina
SC	Asparagus asparagoides

#### Common Name

Smooth Cat's-ear False Hair-grass Perennial Veldt Grass Bridal Creeper InvasiveImpacthighlowhighhighhighhighhighhigh



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

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Murray Mallee 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				on Name
30%				Mallee
	Eucalyptus calycogona Red Mallee			ee
	Eucalyptus leptophylla		Slender-	leaf Mallee
	Eucalyptus socialis		Grey Ma	llee
Understorey	:			
Life form		#Spp	%Cover	LF code
Medium Shru	b	4	10%	MS
Small Shrub		3	5%	SS
Large Herb		1	1%	LH
Medium Herb		7	10%	MH
Small or Pros		2	1%	SH
Large Tufted		1	1%	LTG
	nall Tufted Graminoid	3	5%	MTG
Bryophytes/Li	ichens	na	10%	BL
Soil Crust		na	20%	S/C
Total unde	rstorey projective foliage cov	er	55%	
LF Code	Species typical of at least p	ort of EVC rongo	Co	mmon Name
MS		art of EVC range		
MS	Dodonaea bursariifolia			all Hop-bush k Turpentine Bush
MS	Beyeria opaca Melaleuca uncinata			ombush
SS	Westringia rigida			Westringia
MH	Chenopodium desertorum			sted Goosefoot
MH	Stenopetalum lineare			row Thread-petal
MH	Crassula colorata			se Crassula
LTG	Austrostipa mollis			ple Spear-grass
MTG	Austrodanthonia caespitosa			mon Wallaby-grass
MTG	Lepidosperma viscidum			ky Sword-sedge
MTG	Dianella revoluta s.l.			k-anther Flax-lily
MTG	Austrodanthonia setacea			tly Wallaby-grass
				, , , ,
Recruitment				
Episodic/Fire.	Desirable period between disturbance	ces is 30 years.		
Organic Litte	Nr:			
15% cover				
Logs:				
5m/0.1 ha (n	ote: large log class does not apply)			
Weediness:				
LF Code	Typical Weed Species	Common Na	mo	Invasive
	Olea europaea	Olive		high
LH	Brassica tournefortii	Mediterranean T	Turnin	high
LH	<i>Opuntia</i> spp.	Cactus	unip	high
MH	Gazania linearis	Gazania		high
	Gazarila III learis	GdZdHld Bridal Craapar		high

Bridal Creeper



**Impact** high high high

high

Asparagus asparagoides

SC

# EVC 95: Red Swale Mallee - Murray Mallee bioregion

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Murray Mallee 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> s	on.	30 cm	15/ha	
Allocasuarina	a luehmannii	40 cm	20,110	
Tree Canopy	Covori			
			Comm	non Name
% cover	Character Species		••••••	
10%	Eucalyptus dumosa			a Mallee
	Eucalyptus behriana		Bull Ma	
	Eucalyptus porosa			lallee-box
	Allocasuarina luehmannii		Buloke	
Understorey				
Life form		#Spp	%Cove	r LF code
Immature Ca	nopy Tree		5%	IT
Medium Shru		3	5%	MS
Small Shrub		3	10%	SS
Prostrate Shr	rub	1	1%	PS
Large Herb		2	5%	LH
Medium Hert	*	5	10%	MH
Small or Pros		5	15%	SH
Large Tufted		1	5%	LTG
5	Ifted Graminoid	1	1%	LNG
	mall Tufted Graminoid	3	20%	MTG
	iny Non-tufted Graminoid	1	1%	MNG
	,		1%	BL
Bryophytes/L	liciteris	na	20%	
Soil Crust * Largely seaso	nal lifeform	na	20%	S/C
5 /			_	
LF Code	Species typical of at least	part of EVC ran		ommon Name
MS	Acacia melvillei		My	
MS	Acacia oswaldii			nbrella Wattle
MS	Eremophila longifolia			rrigan
SS	Maireana brevifolia		-	ort-leaf Bluebush
SS	Sclerolaena diacantha			ey Copperburr
SS	Rhagodia spinescens			dge Saltbush
SS	Enchylaena tomentosa var. tome	ntosa		by Saltbush
PS	Atriplex semibaccata			rry Saltbush
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>			dding Saltbush
MH	Maireana enchylaenoides			ngless Bluebush
MH	Maireana excavata			ttle Bluebush
MH	Maireana enchylaenoides			ngless Bluebush
SH	Chenopodium desertorum		Fro	osted Goosefoot
SH	Oxalis perennans		Gra	assland Wood-sorrel
SH	Brachyscome lineariloba			rd-head Daisy
SH	Hyalosperma spp.		Su	nray
LTG	Austrostipa aristiglumis		Pla	ins Grass
MTG	Austrodanthonia setacea		Bri	stly Wallaby-grass
MTG	Austrodanthonia caespitosa			mmon Wallaby-grass
MTG	Austrostipa scabra			ugh Spear-grass
LNG	Austrostipa platychaeta			t-awned Spear-grass
MNG	Austrostipa elegantissima			ather Spear-grass
	·····			



Continuous

# **Organic Litter:**

5% cover

# Logs:

5m/0.1 ha.

#### Weediness:

LF Code MTG MTG MNG MH MNG MS

**Typical Weed Species** Critesion murinum Bromus diandrus Bromus rubens Marrubium vulgare *Vulpia* spp. Lycium ferocissimum

<b>Common Name</b>
Barley-grass
Great Brome
Red Brome
Horehound
Fescue
Boxthorn

Invasive	Impact
high	low
high	high
high	high
high	high
high	low
low	high

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Murray Mallee 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> sp	р.	40 cm	20/ha		
Allocasuarina	spp.	40 cm			
Callitris spp.	- F F	40 cm			
Myoporum platycarpum		35 cm			
Tree Canopy	Cover:				
% cover	<b>Character Species</b>			Commo	n Name
20%	Casuarina pauper			Belah	
2070	Allocasuarina luehmannii			Buloke	
	Callitris gracilis ssp. murraye	pnsis			ypress-pine
	Myoporum platycarpum			Sugarwoo	
	nyoporum placycarpam			Sugarwoo	
Understorey	:		-	~ ~	
Life form	_	#3	Spp	%Cover	LF code
Immature Ca	17	_		5%	IT
Medium Shru	ıb	5		15%	MS
Small Shrub		5		20%	SS
Large Herb*		2		5%	LH
Medium Hert		7		5%	MH
Small or Pros		2		5%	SH
Medium to S	mall Tufted Graminoid	2		10%	MTG
	iny Non-tufted Graminoid	1		1%	MNG
Bryophytes/L	ichens	na		10%	BL
Call Crust		na		20%	S/C
Soil Crust					
* Largely seaso					
* Largely seaso	nal life form erstorey projective foliage	e cover		75%	
* Largely seaso	erstorey projective foliage		range		nmon Name
* Largely seaso Total unde	erstorey projective foliage Species typical of at lea	st part of EVC	range	Con	<b>1mon Name</b> e Bush
* Largely seaso Total unde	erstorey projective foliage	st part of EVC	range	<b>Com</b> Cattle	
* Largely seaso Total unde LF Code MS	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes	st part of EVC	range	Com Cattle	e Bush
* Largely seaso Total under LF Code MS MS	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma	est part of EVC	range	Com Cattle Umb Hook	e Bush rella Wattle
* Largely seaso Total unde LF Code MS MS MS	Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii	est part of EVC scens tera	range	Com Cattle Umb Hook Silver	e Bush rella Wattle red Needlewood
* Largely seaso Total under LF Code MS MS MS MS MS	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop	est part of EVC scens tera	range	Com Cattle Umb Hook Silver Ruby	e Bush rella Wattle red Needlewood r Needlewood
* Largely seaso Total under LF Code MS MS MS MS SS	Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to	est part of EVC scens tera	range	Com Cattle Umb Hook Silver Ruby Grey	e Bush rella Wattle red Needlewood r Needlewood Saltbush
* Largely seaso Total under MS MS MS MS SS SS	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides	est part of EVC scens tera	range	Con Cattle Umb Hook Silver Ruby Grey Pime	e Bush rella Wattle red Needlewood r Needlewood Saltbush Copperburr
* Largely seaso Total under MS MS MS MS SS SS SS	Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to Sclerolaena diacantha	est part of EVC scens tera	range	Con Cattle Umb Hook Silver Ruby Grey Pime Hedg	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush
* Largely seaso Total under MS MS MS MS SS SS SS SS SS	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop, Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides Rhagodia spinescens	est part of EVC scens tera	range	Con Cattle Umb Hook Silver Ruby Grey Pime Hedg Nodo	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush je Saltbush ling Saltbush
* Largely seaso Total under MS MS MS MS SS SS SS SS SS MH	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides Rhagodia spinescens Einadia nutans ssp. nutans	est part of EVC scens tera	range	Con Cattle Umb Hook Silver Ruby Grey Pime Hedg Nodo Disse	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush je Saltbush ling Saltbush
* Largely seaso Total under MS MS MS MS SS SS SS SS SS SS MH MH	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop, Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides Rhagodia spinescens Einadia nutans ssp. nutans Vittadinia dissecta s.l.	est part of EVC scens tera	range	Con Cattle Umb Hook Silver Ruby Grey Pime Hedg Nodo Disse Smal	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush je Saltbush ling Saltbush ected New Holland Daisy
* Largely seaso Total unde MS MS MS MS SS SS SS SS SS SS MH MH MH	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides Rhagodia spinescens Einadia nutans ssp. nutans Vittadinia dissecta s.l. Calandrinia eremaea	<b>est part of EVC</b> Scens	range	Com Cattle Umb Hook Silver Ruby Grey Pime Hedg Nodo Disse Smal Dens	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush ge Saltbush ling Saltbush ected New Holland Daisy I Purslane
* Largely seaso Total unde MS MS MS MS SS SS SS SS SS SS SS MH MH MH MH	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides Rhagodia spinescens Einadia nutans ssp. nutans Vittadinia dissecta s.l. Calandrinia eremaea Crassula colorata	<b>est part of EVC</b> Scens	range	Com Cattle Umb Hook Silver Ruby Grey Pime Hedg Nodo Disse Smal Dens Flanr	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush ge Saltbush ling Saltbush ected New Holland Daisy I Purslane e Crassula
* Largely seaso Total unde MS MS MS MS SS SS SS SS SS SS SS SS SS	erstorey projective foliage Species typical of at lea Alectryon oleifolius ssp. canes Acacia oswaldii Hakea tephrosperma Hakea leucoptera ssp. leucop Enchylaena tomentosa var. to Sclerolaena diacantha Olearia pimeleoides Rhagodia spinescens Einadia nutans ssp. nutans Vittadinia dissecta s.l. Calandrinia eremaea Crassula colorata Actinobole uliginosum	<b>est part of EVC</b> Scens	range	Com Cattle Umb Hook Silver Ruby Grey Pime Hedg Nodc Disse Smal Dens Flanr Com	e Bush rella Wattle ed Needlewood r Needlewood Saltbush Copperburr lea Daisy-bush le Saltbush ling Saltbush ected New Holland Daisy I Purslane e Crassula nel Cudweed



Continuous

#### **Organic Litter:** 20% cover

Logs:

20m/0.1 ha.

#### Weediness:

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

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Murray Mallee bioregion

# EVC 98: Semi-arid Chenopod Woodland

### **Description:**

+

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

<sup>+</sup> woodland <u>only</u> components (ignore when assessing shrubland areas and standardise final score as appropriate)

Large trees <sup>+</sup> :					
Species		DBH(cm)	#/ha		
Casuarina pau		40 cm	15/ha		
Allocasuarina l		40 cm			
Callitris gracilis		40 cm			
Myoporum pla	tycarpum	35 cm			
Tree Canopy (	Cover <sup>+</sup> :				
% cover	Character Species			Commo	n Name
15%	Casuarina pauper			Belah	
	Allocasuarina luehmannii			Buloke	
	Myoporum platycarpum			Sugarwoo	d
	Callitris gracilis ssp. murrayer	nsis		Slender N	ative Pine
Understorey:					
Life form		#Sp	D	%Cover	LF code
Immature Can	opy Tree <sup>+</sup>			5%	IT
	ree or Large Shrub <sup>+</sup>	3		10%	Т
Medium Shrub		2		40%	MS
Small Shrub		4		15%	SS
Prostrate Shru	b	1		1%	PS
Large Herb*		2		5%	LH
Medium Herb*		6		15%	MH
Small or Prostr	ate Herb*	8		15%	SH
Large Non-tuft	ed Graminoid	1		5%	LNG
Medium to Sm	all Tufted Graminoid	2		5%	MTG
Medium to Tin	y Non-tufted Graminoid	1		1%	MNG
Bryophytes/Lic	hens	na		10%	BL
Soil Crust		na		30%	S/C
* Largely season	al life form				



# EVC 98: Semi-arid Chenopod Woodland - Murray Mallee bioregion

LF Code T <sup>+</sup> T <sup>+</sup> T <sup>+</sup>	<b>Species typical of at least part of EVC range</b> <i>Alectryon oleifolius</i> ssp. <i>canescens</i> <i>Acacia melvillei</i> <i>Hakea leucoptera</i> ssp. <i>leucoptera</i>
MS	Maireana pyramidata
MS	Maireana sedifolia
MS	Atriplex nummularia
MS	Nitraria billardierei
SS	Sclerolaena obliquicuspis
SS	Sclerolaena tricuspis
SS	Sclerolaena divaricata
SS	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>
PS	Sclerochlamys brachyptera
LH	Polycalymma stuartii
MH	Brachyscome lineariloba
MH	Osteocarpum acropterum var. deminutum
MH	Zygophyllum crenatum
MH	Zygophyllum ammophilum
SH	Calotis hispidula
SH	Plagiobothrys elachanthus
SH	Isoetopsis graminifolia
SH	Pogonolepis muelleriana

#### **Common Name**

Cattlebush Myall Silver Needlewood Shrubby Bluebush Pearl Bluebush Old Man Saltbush Nitre-bush Limestone Copperburr Three-spined Bassia Tangled Bassia Ruby Saltbush Short-wing Saltbush Poached-egg Daisy Hard-head Daisy Babbagia Hard-head Daisy Sand Twin-leaf Hairy Burr-daisy Hairy Forget-me-not Grass Cushion Stiff Cup-flower

#### **Recruitment:**

Continuous

#### **Organic Litter:**

5% in shrubland 15% in woodland.

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

5m/0.1ha

### Weediness:

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

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Murray Mallee bioregion

# EVC 101: Samphire Shrubland

### **Description:**

MNG

MNG

SNG

SNG

SNG

SNG

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'.

Medium to T Soil Crust		<b>#Spp</b> 4 7 3 2 2 na	%Cover 20% 5% 5% 1% 1% 10% <b>30%</b>	LF code SS MH SH MTG MNG S/C	
LF Code SS SS SS SS SS SS SS MH MH MH MH MH SH SH SH SH SH SH SH MTG MNG	Senecio glossanthus Hymenolobus procumbens Brachyscome lineariloba	cnemoides	Bluish G Grey Gla Blacksee Small-le Slender Oval Pur Hard-he Finger-le Roundee Stiff Cup Sieber C Common Spurred	ed Glasswort af Sea-heath Groundsel rse ad Daisy eaved Daisy d Noon-flower o-flower	
Recruitment: Continuous					
Weediness: LF Code LH LH MH MH MH SH SH SH SH MTG MNG	<b>Typical Weed Species</b> Sonchus oleraceus Brassica tournefortii Reichardia tingitana Hypochoeris glabra Carrichtera annua Spergularia diandra Medicago minima Spergularia rubra s.l. Critesion murinum subsp. glaucum Bramus rubans	Common Name Common Sow-thistle Mediterranean Turni Reichardia Smooth Cat's-ear Ward's Weed Lesser Sand-spurrey Little Medic Red Sand-spurrey Blue Barley-grass Pad Brame	p	Invasive high high high high high high high hig	Impact low high low low high low high low high bigh

Red Brome

Golden-top

Rat's-tail Fescue

Coast Barb-grass

Blue Barley-grass

Arabian Grass



high

high

high

high

high

high

high

high



Bromus rubens

Vulpia bromoides

Schismus barbata

Parapholis incurva

Critesion murinum subsp. glaucum

Lamarckia aurea

# EVC 101: Samphire Shrubland - Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 102: Low Chenopod Shrubland

### **Description:**

Chenopod shrubland to 1 m tall occupying broad, flat alluvial terraces occur along the Murray River, west from Mildura to the border. Also found in narrow bands fringing raak and saline lakes such as Lake Tyrell and on relict lakebed surfaces such as Pine Plains. The field layer is characterised by succulents and a suite of annual herbs.

Understorey:			
Life form	#Spp	%Cover	LF code
Medium Shrub	1	5%	MS
Small Shrub	4	25%	SS
Prostrate Shrub	2	5%	PS
Large Herb	2	1%	LH
Medium Herb	6	25%	MH
Small or Prostrate Herb	4	20%	SH
Medium to Small Tufted Graminoid	3	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	1%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	20%	S/C

LF Code MS SS SS SS PS PS LH MH MH MH SH SH SH	Species typical of at least part of EVC range Nitraria billardierei Minuria cunninghamii Sclerolaena tricuspis Stelligera endecaspinis Atriplex vesicaria Sclerochlamys brachyptera Osteocarpum acropterum var. deminutum Senecio pinnatifolius Brachyscome lineariloba Senecio glossanthus Crassula colorata Goodenia pusilliflora Disphyma crassifolium ssp. clavellatum Pogonolepis muelleriana Isoetopsis graminifolia	Common Name Nitre-bush Bush Minuria Three-spined Bassia Starfruit Bassia Bladder Saltbush Short-wing Saltbush Babbagia Variable Groundsel Hard-head Daisy Slender Groundsel Dense Crassula Small-flower Goodenia Rounded Noon-flower Stiff Cup-flower Grass Cushion
SH	5 1	•
MTG	Austrostipa eremophila	Desert Spear-grass
TTG	<i>Hypoxis glabella</i> var. <i>glabella</i>	Tiny Star

### **Recruitment:**

Continuous

### **Organic Litter:**

5% cover



# EVC 102: Low Chenopod Shrubland - Murray Mallee bioregion

# Weediness:

-	ccamesor	
	LF Code	Typical Weed Species
	LH	Sonchus oleraceus
	LH	Brassica tournefortii
	MH	Reichardia tingitana
	MH	Hypochoeris glabra
	MH	Carrichtera annua
	MH	Spergularia diandra
	SH	Medicago minima
	SH	<i>Spergularia rubra</i> s.l.
	MTG	Critesion murinum subsp. glaucum
	MNG	Bromus rubens
	MNG	Vulpia bromoides
	SNG	Schismus barbata
	SNG	Lamarckia aurea
	SNG	Parapholis incurva

Common Name	Invasive
Common Sow-thistle	high
Mediterranean Turnip	high
False Sow-thistle	high
Smooth Cat's-ear	high
Ward's Weed	high
Lesser Sand-spurrey	high
Little Medic	high
Red Sand-spurrey	high
Blue Barley-grass	high
Red Brome	high
Squirrel-tail Fescue	high
Arabian Grass	high
Golden-top	high
Coast Barb-grass	high

Impact

low

high

low

low

high

low

high

low high

high high high low high

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment Murray Mallee bioregion

# EVC 103: Riverine Chenopod Woodland (syn. Black Box Chenopod Woodland)

### **Description:**

l argo troos

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

Large trees: Species Eucalyptus largi	florens	<b>DBH(cm)</b> 40 cm	<b>#/ha</b> 5/ha		
Tree Canopy Co	over:				
<b>%cover</b> 10%	Character Species Eucalyptus largiflorens Acacia stenophylla			Comm Black Bo River Co	
Understorey:					
Life form		#Spj	р	%Cover	LF code
Immature Canor	py Tree			5%	IT
Medium Shrub		3		30%	MS
Small Shrub		5		25%	SS
Prostrate Shrub		1		1%	PS
Medium Herb		5		5%	MH
Small or Prostra	te Herb*	5		10%	SH
	ll Tufted Graminoid	2		5%	MTG
* Largely seasona					
Total unders	torey projective foliage c	over		55%	
LF Code	Species typical of at least	part of EVC ra	nge	Co	mmon Name
	Atriplex nummularia	•	-	Old	-man Saltbush
MS	Chenopodium nitrariaceum			Nitr	e Goosefoot
MS	Eremophila divaricata ssp. divari	icata		Spre	eading Emu-bush
SS .	Sclerolaena tricuspis			Stre	aked Copperburr
	<i>Enchylaena tomentosa</i> var. <i>tom</i> e	entosa			y Saltbush
	Atriplex lindleyi				-top Saltbush
	Rhagodia spinescens				lge Saltbush
	Sclerochlamys brachyptera				rt-wing Saltbush
	Einadia nutans ssp. nutans				lding Saltbush
	Calocephalus sonderi				e Beauty-heads
	Senecio glossanthus				nder Groundsel
	Brachyscome lineariloba				d-head Daisy
	Disphyma crassifolium ssp. clave	ellatum			Inded Noon-flower
SH	Maireana pentagona			Hall	ry Bluebush



Continuous

## **Organic Litter:**

5% cover

# Logs:

5m/0.1 ha.

Weediness:				
LF Code	Typical Weed Species	Common Name	Invasive	Impact
Т	<i>Olea europaea</i> subsp. <i>europaea</i>	Olive	low	high
MS	Lycium ferocissimum	Boxthorn	low	high
LH	Sisymbrium erysimoides	Smooth Mustard	high	high
LH	Critesion spp.	Barley-grass	high	low
LH	Gazania linearis	Gazania	high	high
LH	<i>Opuntia</i> spp.	Prickly Pear	low	high
LH	Sisymbrium irio	London Mustard	high	high
LH	Psilocaulon granulicaule	Noon-flower	high	high
MH	Limonium sinuatum	Notch-leaf Sea-lavender	high	high
MH	Limonium lobatum	Winged Sea-lavender	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	Mesembryanthemum nodiflora	Ice-plant	high	high
MH	Carrichtera annua	Ward's Weed	high	high
MH	Marrubium vulgare	Horehound	high	high
MH	Carpobrotus aequilaterus	Angled Pigface	low	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	<i>Medicago</i> spp.	Medic	high	low
MH	Oxalis pes-caprae	Soursob	high	high
MH	Silene gallica	French Catchfly	high	low
MH	Silene nocturna	Mediterranean Catchfly	high	low
SH	Mesembryanthemum crystallinum	Common Ice-plant	high	high
MTG	Vulpia bromoides	Squirrel-tail Fescue	high	high
MTG	Lolium rigidum	Wimmera Rye-grass	high	low
MTG	Asphodelus fistulosus	Onion Weed	high	high
MNG	Bromus rubens	Red Brome	high	high
MNG	Vulpia myuros	Rat's-tail Fescue	high	low
MNG	Bromus spp.	Brome	high	high
MNG	Schismus barbatus	Arabian Grass	high	low
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee 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.

Medium to Tin Scrambler or C Soil crust* * Largely seaso	rate Herb* ted Graminoid all Tufted Graminoid y Non-tufted Graminoid* Climber	<b>#Spp</b> 1 4 8 2 1 2 2 1 na	%Cove 20% 5% 25% 10% 5% 5% 1% 1% 10%	er LF code MS LH MH SH LNG MTG MNG SC S/C
LF CodeSpecies typical of at least parMSMuehlenbeckia florulentaMSChenopodium nitrariaceumSSSclerolaena tricuspisSSSclerolaena muricataLHRumex spp.MHMarsilea drummondiiMHGoodenia spp.MHRanunculus spp.LNGEragrostis australasicaMNGEleocharis spp.MNGEleocharis spp.SCAsperula gemella		of EVC range	T; N TI D C G B C C B C S S S	<b>Common Name</b> angled Lignum litre Goosefoot hree-spined Bassia iock ommon Nardoo oodenia uttercup ane Grass arren Cane grass ush pike-sedge win-leaf Bedstraw
Continuous Organic Litter: 5% cover Weediness: LF Code Typical Weed Species SH Phyla canescens		<b>Common Nam</b> Lippia	ne	<b>Invasive</b> high



Impact high

# EVC 104: Lignum Swamp - Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 106: Grassy Riverine Forest

### **Description:**

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

Large trees: Species Eucalyptus sp	р.	<b>DBH(cm)</b> 90 cm	<b>#/ha</b> 20 / ha			
Tree Canopy %cover 30%	Cover: Character Species Eucalyptus camaldulensis			<b>Commo</b> River Red	-gum	
Large Herb Medium Herb Medium to Sn	nopy Tree Tree or Large Shrub nall Tufted Graminoid	<b>#S</b> 1 2 3 3	5 1 1 1 2	%Cover % .0% .0% .0% 25%	<b>LF code</b> IT T LH MH MTG	
Bryophytes/Li	ny Non-tufted Graminoid chens <b>rstorey projective foliage (</b>	3 na C <b>over</b>	1	.0% .0% <b>75%</b>	MNG BL	
LF Code T LH LH MH MTG MNG Recruitment: Continuous Organic Litte 40 % cover Logs: 30 m/0.1 ha.		t part of EVC r	ange	Eumo River Cotto Silky Yello Warr	mon Name ong Bluebell on Fireweed Goodenia w Twin-heads ego Summer-grass mon Spike-sedge	
Weediness: LF Code LH LH LH MH MH MH MH MH MTG MNG	Typical Weed Species Lactuca serriola Sonchus oleraceus Centaurea melitensis Hypochoeris glabra Trifolium arvense var. arvense Reichardia tingitana Phyla canescens Vulpia bromoides Bromus rubens	<b>Common</b> Prickly Let Common 9 Malta This Smooth Ca Hare's-foo False Sow Fog-fruit Squirrel-ta Red Brom	tuce Sow-thistle stle at's-ear of Clover -thistle ail Fescue		<b>Invasive</b> high high high high high high high hig	Impact low low low low low high low low



# EVC 106: Grassy Riverine Forest - Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 107: Lake Bed Herbland

### **Description:**

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

Life forms:#SpLife form#SpMedium Shrub2Small Shrub2Medium Herb*3Small or Prostrate Herb*3Medium to Small Tufted Graminoid2* Largely seasonal life form			<b>%Cover</b> 5% 5% 25% 20% 5%	<b>LF code</b> MS SS MH SH MTG
lotal unde	rstorey projective foliage cover		60%	
LF Code MS MS SS SS MH MH SH SH SH	<b>Species typical of at least part of</b> <i>Malva australiana</i> s.l. <i>Solanum simile</i> <i>Glycyrrhiza acanthocarpa</i> <i>Muehlenbeckia horrida</i> ssp. <i>horrida</i> <i>Chenopodium pumilio</i> <i>Chenopodium glaucum</i> <i>Glossostigma elatinoides</i> <i>Glinus lotoides</i> <i>Mukia micrantha</i>	EVC range	Souti Oonc Souti Spiny Clam Glauc Smal Hairy	hern Hollyhock loroo hern Liquorice / Lignum my Goosefoot cous Goosefoot I Mud-mat / Carpet-weed her Cucumber

### **Recruitment:**

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

#### **Organic Litter:**

5% cover

### Weediness:

There are no consistent weeds in this EVC.



# EVC 107: Lake Bed Herbland - Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 132: Plains Grassland

## **Description:**

LTG

MTG

MTG

MTG

MTG

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

Large Tufter Large Non-t Medium to S	b* strate Herb* d Graminoid ufted Graminoid Small Tufted Graminoid Finy Non-tufted Graminoid* Lichens	<b>#Spp</b> 2 3 6 3 1 1 5 2 na na	<b>%Cover</b> 5% 5% 20% 10% 5% 5% 35% 5% 10% 25%	LF code SS LH MH SH LTG LNG MTG MNG BL S/C
LF CodeSpecies typical of at least partMSAcacia oswaldiiSSSclerolaena napiformisSSSclerolaena diacanthaSSMaireana decalvansSSPimelea curviflora s.s.LHPtilotus exaltatusLHEryngium ovinumLHCalocephalus citreusLHArthropodium fimbriatumMHCalotis scabiosifoliaMHGoodenia pinnatifidaMHSida corrugataMHPtilotus macrocephalusSHMaireana pentagonaSHChamaesyce drummondiiSHPogonolepis muelleriana		of EVC range	Umbri Turnij Grey ( Black Curve Mulla Blue I Lemo Noddi Rougl Cut-le Variat Feath Hairy Flat S	Devil n Beauty-heads ng Chocolate-lily n Burr-daisy af Goodenia ble Sida er Heads Bluebush
SH LTG LTG	<i>Convolvulus erubescens</i> spp. agg. <i>Austrostipa blackii</i> <i>Austrostipa gibbosa</i>		Creste	Bindweed ed Spear-grass ed Spear-grass



The Place To Be

Plump Spear-grass

Rough Spear-grass

Knotty Spear-grass

Brown-back Wallaby-grass

Rigid Panic

Austrostipa aristiglumis

Austrodanthonia duttoniana

Austrostipa scabra

Austrostipa nodosa

Whalleya proluta

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

#### **Organic Litter:**

10% cover

# Weediness:

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

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Murray Mallee bioregion

# EVC 158: Chenopod Mallee

## **Description:**

Open to very open mallee woodland to 12 m tall (almost invariably dominated by *Eucalyptus gracilis*) supported by thin Woorinen deposits typically overlying gypsiferous and sodic clays. In undisturbed remnants this EVC is characterised by the dominance of saltbushes and semi-succulent understorey shrubs.

Large trees: Species Eucalyptus spr	э.	<b>DBH(cm)</b> 20 cm	<b>#/ha</b> 20/ha		
Tree Canopy C % cover 20%	over: Character Species Eucalyptus gracilis Eucalyptus oleosa ssp. oleosa Eucalyptus dumosa		Ye O	ommon I orrell il Mallee umosa Mall	
Understorey: Life form Medium Shrub Small Shrub Medium Herb Small or Prostr Bryophytes/Lic Soil Crust Total under	rate Herb	# <b>Sp</b> 1 9 3 2 na na na <b>cover</b>	p %C 5% 45% 5% 10% 10% 15% 650	, , , ,	LF code MS SS MH SH BL S/C
MS SS SS SS MH MH SH	Species typical of at least Maireana pyramidata Atriplex lindleyi Atriplex vesicaria ssp. variabilis Zygophyllum aurantiacum ssp. a Nitraria billardierei Eriochiton sclerolaenoides Zygophyllum apiculatum Zygophyllum crenatum Calandrinia eremaea Disphyma crassifolium ssp. clave	urantiacum	nge	Black Blu Baldoo Bladder Shrubby Nitre-bu Woolly-f Pointed Notched Small Pu	Salt-bush Twin-leaf sh ruit Bluebush Twin-leaf Twin-leaf
	xcluding overstorey)				

### Continuous (

**Organic Litter:** 

10% cover

## Logs:

20m/0.1 ha.



# EVC 158: Chenopod Mallee - Murray Mallee bioregion

Weediness:				
LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Opuntia</i> spp.	Prickly Pear	low	high
LH	Psilocaulon granulicaule	Noon-flower	high	high
LH	Gazania linearis	Gazania	high	high
LH	<i>Salvia verbenaca</i> var. <i>vernalis</i>	Wild Sage	high	high
LH	Critesion murinum subsp. leporinum	Wall Barley-grass	high	low
LH	Sisymbrium erysimoides	Smooth Mustard	high	high
MH	Carpobrotus aequilaterus	Angled Pigface	low	high
MH	Brassica tournefortii	Mediterranean Turnip	high	high
MH	Mesembryanthemum nodiflora	Ice-plant	high	high
MH	Carrichtera annua	Ward's Weed	high	high
MH	Marrubium vulgare	Horehound	high	high
SH	Mesembryanthemum crystallinum	Common Ice-plant	high	high
MTG	Lolium rigidum	Wimmera Rye-grass	high	low
MNG	Schismus barbatus	Arabian Grass	high	high
MNG	Bromus spp.	Brome	high	high
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee bioregion

# EVC 295: Riverine Grassy Woodland

### **Description:**

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

Large trees: Species Eucalyptus spp		<b>DBH(cm)</b> 80 cm	<b>#/h</b> 15 /		
Tree Canopy C	Cover:				
<b>%cover</b> 20%	Character Species Eucalyptus camaldulensis Eucalyptus largiflorens	R	iver Rec lack Box	5	
Understorey:					
Life form		#S	рр	%Cover	LF code
Immature Cano	ppy Tree		••	5%	IT
Small Shrub		4		10%	SS
Large Herb		4		10	LH
Medium Herb		2		10%	MH
Small or Prostra	ate Herb	5		10%	SH
Large Tufted G	raminoid	1		1%	LTG
Medium to Sma	all Tufted Graminoid	5		20%	MTG
	y Non-tufted Graminoid	2		5%	MNG
Bryophytes/Licl		na		10%	BL
Total under	storey projective foliage o	over		75%	
LF Code	Species typical of at least	t part of EVC r	ange	Com	nmon Name
SS	Sclerolaena muricata var. villosa		5	Grev	Roly-poly
SS	Enchylaena tomentosa var. tom	entosa			Saltbush
SS	Maireana decalvans			,	Cotton-bush
SS	Chenopodium curvispicatum			Cotto	ny Saltbush
LH	Wahlenbergia fuminalis			River	Bluebell
LH	Rumex brownii			Slend	ler Dock
LH	Senecio quadridentatus			Cotto	n Fireweed
MH	Einadia nutans ssp. nutans			Nodd	ling Saltbush
MH	Atriplex semibaccata			Berry	Saltbush
MH	Atriplex eardleyae			Smal	l Saltbush
MH	Sida corrugata			Varia	ble Sida
MTG	Austrodanthonia setacea			Brist	y Wallaby-grass
MTG	Austrostipa scabra			Roug	h Spear-grass
MTG	Carex inversa			Knob	Sedge
MTG	Juncus subsecundus			Finge	er Rush
Recruitment:					
Continuous					

Continuous

Organic Litter:

10 % cover

### Logs:

20 m/0.1 ha.



## EVC 295: Riverine Grassy Woodland – Murray Mallee bioregion

## Weediness:

LF Code MTG MTG MNG

## **Typical Weed Species** Bromus hordaceus ssp. hordaceus

Critesion murinum ssp. leporinum Bromus rubens

## **Common Name**

Soft Brome Wall Barley-grass Red Brome

Invasive high high high

Impact high high high

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Murray Mallee 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 Eucalyptus spp.		<b>DBH(cm)</b> 80 cm	<b>#/ha</b> 15 / ha		
Tree Canopy C %cover	Character Species			mon Name	
10% Understorey: Life form Immature Cano Understorey Tre Medium Shrub Small Shrub Large Herb Medium Herb Small or Prostra Large Tufted Gr	ee or Large Shrub ate Herb	<b>#Spj</b> 2 2 1 4 5 1 3		Red-gum IT T MS SS LH MH SH LTG	ł
Medium to Tiny Scrambler or Cli Bryophytes/Lich		4 2 1 na	30% 5% 5% 10%	MTG MNG SC BL Common Nar	me
MS MS SS LH LH MH MH MH LTG LTG MTG MTG	Viminaria juncea Melaleuca decussata Rubus parvifolius Wahlenbergia gracilis s.s. Myriophyllum crispatum Rumex brownii Oxalis perennans Mentha australis Acaena novae-zelandiae Cyperus gunnii ssp. gunnii Carex appressa Lachnagrostis filiformis var. filifo Juncus amabilis Eleocharis acuta Cynodon dactylon Calystegia sepium			Golden Spray Totem-poles Small-leaf Bramt Sprawling Bluebe Upright Water-m Slender Dock Grassland Wood River Mint Bidgee-widgee Flecked Flat-sede Tall Sedge Common Blown- Hollow Rush Common Spike-s Couch Large Bindweed	ole ell iilfoil -sorrel ge grass

## **Recruitment:**

Continuous

### **Organic Litter:**

30% cover

### Logs:

20m / 0.1 ha



# EVC 641: Riparian Woodland – Murray Mallee bioregion

### Weediness: LF Code Typical Weed Species MS Rosa rubiginosa 'anahua

LH	Sonchus oleraceus
LH	Cirsium vulgare
LH	Plantago lanceolata
LH	Helminthotheca echioides
LH	Rumex crispus
LH	Aster subulatus
LH	Rorippa palustris
MH	Leontodon taraxacoides ssp. taraxacoides
MH	Hypochoeris radicata
LTG	Phalaris aquatica
LNG	Holcus lanatus
MTG	Bromus hordeaceus ssp. hordeaceus
MTG	Anthoxanthum odoratum
MNG	Paspalum distichum
SC	Galium aparine

Common Name Sweet Briar	<b>Invasive</b> high	Impact high
Common Sow-thistle	high	low
Spear Thistle	high	high
Ribwort	high	low
Ox-tongue	high	low
Curled Dock	high	low
Aster-weed	5	
	high	low
Marsh Yellow-cress	high	high
Hairy Hawkbit	high	low
Cat's Ear	high	low
Toowoomba Canary-grass	high	high
Yorkshire Fog	high	high
Soft Brome	high	low
Sweet Vernal-grass	high	high
Water Couch	high	high
Cleavers	high	low

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Murray Mallee 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 N	lame	
20%	<i>Melaleuca halmaturorum</i> ssp. <i>halma</i>	aturorum	Salt Paperbar	ĸ	
Life forms:					
Life form		#Spp	%Cover	LF code	
Prostrate Sh	rub	1 1	10%	PS	
Medium Her		3	15%	MH	
Small or Pro	strate Herb	3	10%	SH	
Medium to S	Small Tufted Graminoid	1	1%	MTG	
Soil Crust		na	10%	S/C	
Total und	erstorey projective foliage cove	er	45%		
LF Code	Species typical of at least pa	art of EVC range	Comp	non Name	
PS	Wilsonia rotundifolia			leaf Wilsonia	
MH	Sarcocornia quinqueflora			Glasswort	
MH	Samolus repens			ng Brookweed	
MH	Spergularia sp. 3			a-spurrey	
SH	Selliera radicans			wamp-mat	
SH	Angianthus pressianus			gianthus	
SH	Apium prostratum		Annual		
MTG	<i>Puccinellia stricta</i> var. <i>perlaxa</i>		Plains S	Saltmarsh-grass	
Recruitment	•				
Continuous	•				
Weediness:					
LF Code	Typical Weed Species	Common Name	e	Invasive	Impact
LH	Sonchus oleraceus	Common Sow-thist	tle	high	low
LH	Brassica tournefortii	Mediterranean Tur	nip	high	high
MH	Reichardia tingitana	Reichardia		high	low
MH	Hypochoeris glabra	Smooth Cat's-ear		high	low
MH	Carrichtera annua	Ward's Weed		high	high
MH	Spergularia diandra	Lesser Sand-spurre	еу	high	low
SH	Medicago minima	Little Medic		high	high
SH	Spergularia rubra s.l.	Red Sand-spurrey		high	low
MTG	<i>Critesion murinum</i> subsp. <i>glaucum</i> <i>Bromus rubens</i>	Blue Barley-grass Red Brome		high	high
MNG MNG	Bromus rubens Vulpia bromoides	Red Brome Rat's-tail Fescue		high high	high high
SNG	Schismus barbata	Arabian Grass		high	low
SNG	Lamarckia aurea	Golden-top		high	low
SNG	Parapholis incurva	Coast Barb-grass		high	high
SNG	<i>Critesion murinum</i> subsp. <i>glaucum</i>	Blue Barley-grass		high	high
0.10	encerent mannam babopt gladeam	Elice Balley grass			



# EVC 676: Salt Paperbark Woodland - Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 803: Plains Woodland

## Description:

Grassy or sedgy woodland to 15 m tall (typically dominated by *Eucalyptus largiflorens* in the north-western part of its range) 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 recent (ie Quaternary) fluvial or alluvial deposits.

Large trees: Species Eucalyptus spp Allocasuarina lu		<b>DBH(cm)</b> 60 cm 40 cm	<b>#/ha</b> 15/ha		
Tree Canopy C	cover:				
<b>%cover</b> 15%	Character Species Eucalyptus largiflorens Allocasuarina luehmannii Eucalyptus microcarpa			<b>Commo</b> Black Box Buloke Grey Box	n Name
	Eucalyptus porosa			Black Mall	ee-box
	2				
Understorey:					
Life form		#Sp	p %	Cover	LF code
Immature Cano	ppy Tree		5%	6	IT
Medium Shrub		3	10	%	MS
Small shrub		1	59	6	SS
Prostrate shrub	)	2	10	%	PS
Large Herb		3	19	6	LH
Medium Herb		9	10	%	MH
Small or Prostra	ate Herb	5	10	%	SH
Large tufted gr	aminoid	1	19	6	LTG
0 0	all Tufted Graminoid	4	20	%	MTG
	Non-tufted Graminoid	2	19	6	MNG
Scrambler or C		1	19	6	SC
Bryophytes/Licl		na	10	%	BL
Soil Crust		na		%	S/C
	storey projective foliage c			)%	
LF Code	Species typical of at least	part of EVC ra	nge	Com	mon Name
MS	Pittosporum angustifolium			Weep	ing Pittosporum
MS	Acacia pycnantha			Golde	n Wattle
MS	<i>Acacia acinacea</i> s.l.			Gold-	dust Wattle
SS	Eutaxia microphylla var. microph	hylla		Comn	non Eutaxia
SS	Enchylaena tomentosa var. tom	entosa		Ruby	Saltbush
SS	Sclerolaena diacantha			Grey	Copperburr
LH	Ajuga australis			Austra	al Bugle
LH	Senecio quadridentatus			Cotto	n Fireweed
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>			Noddi	ing Saltbush
MH	Calocephalus citreus				n Beauty-heads
MH	, Plantago gaudichaudii				w Plantain
MH	Sida corrugata			Varial	ole Sida
SH	Crassula sieberiana				r Crassula
SH	Actinobole uliginosum				el Cudweed
SH	Oxalis perennans				land Wood-sorrel
SH	Calotis hispidula				Burr-daisy
LTG	Austrostipa aristiglumis				Spear-grass
MTG	Austrodanthonia caespitosa				non Wallaby-grass
MTG	Dianella revoluta s.l.				non Wallaby-grass
				50111	grass



### **Recruitment:**

Continuous

### **Organic Litter:** 10% cover

Logs: 10m/0.1 ha.

### Weediness:

www.counicss.				
LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	Lycium ferocissimum	Boxthorn	high	high
LH	Brassica tournefortii	Mediterranean Turnip	high	high
LH	Sonchus oleraceus	Common Sow-thistle	high	low
LH	<i>Opuntia</i> spp	Prickly Pear	low	high
MH	Gazania linearis	Gazania	high	high
MH	<i>Spergularia rubra</i> s.l.	Red Sand-spurrey	high	low
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	Silene longicaulis	Portuguese Catchfly	high	low
SH	Medicago minima	Little Medic	high	low
MTG	Schismus barbatus	Arabian Grass	high	low
MTG	Poa bulbosa	Bulbous Meadow-grass	high	high
MTG	Pentaschistis airoides subsp. airoides	False Hair-grass	high	high
MTG	Romulea rosea	Onion Grass	high	high
MNG	Bromus rubens	Red Brome	high	high
MNG	Vulpia myuros	Rat's-tail Fescue	high	low
MNG	Bromus spp.	Brome	high	high
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee bioregion

# EVC 808: Lignum Shrubland

## **Description:**

Relatively open shrubland of species of divaricate growth form. The ground-layer is typically herbaceous or a turf grassland, rich in annual/ephemeral herbs and small chenopods. Characterised the open and even distribution of relatively small Lignum shrubs. Occupies heavy soil plains along Murray River, low-lying areas on higher-level (but still potentially flood-prone) terraces.

Medium to Sn Soil Crust * Largely seaso	rrate Herb* ted Graminoid nall Tufted Graminoid	<b>#Spp</b> 2 3 1 6 5 1 2 na	%C0 30% 10% 1% 5% 10% 20% 10% 75%	MS SS LH MH SH LNG MTG S/C
LF Code MS MS SS SS LH MH MH MH MH SH SH SH SH SH SH SH SH SH SH SH SH SH	Species typical of at least part of Muehlenbeckia florulenta Chenopodium nitrariaceum Sclerolaena tricuspis Sclerochlamys brachyptera Senecio glossanthus Plantago cunninghamii Brachyscome lineariloba Brachyscome ciliaris Calocephalus sonderi Isoetopsis graminifolia Rhodanthe corymbiflora Atriplex leptocarpa Tetragonia eremaea s.l. Eragrostis australasica Sporobolus mitchellii Setaria jubiflora	EVC range		<b>Common Name</b> Tangled Lignum Nitre-bush Three-spined Bassia Short-wing Saltbush Slender Groundsel Clay Plantain Hard-headed Daisy Variable Daisy Variable Daisy Pale Beauty-heads Grass Cushion Paper Sun-ray Slender-fruit Saltbush Annual Spinach Cane-grass Rat-tail Couch Warrego Summer-grass

### **Recruitment:**

Continuous

### **Organic Litter:**

10% cover

### Weediness:

There are no consistent weeds in this EVC.



# EVC 808: Lignum Shrubland – Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 809: Floodplain Grassy Wetland

## Description:

Wetland dominated by floating aquatic grasses (which persist to some extent as turf during drier periods), occurring in the most flood-prone riverine areas. Typically treeless, but sometimes with thickets of saplings or scattered more mature specimens of *Eucalyptus camaldulensis*. Occupies temporary shallow lakes in the most flood-prone riverine areas, also occurs as a narrow intermediate band around some floodway ponds.

## Life forms:

Life form	#Spp	%Cover	LF code
Medium Herb	5	10%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	3	5%	MTG
Medium to Tiny Non-tufted Graminoid	4	60%	MNG
Total understorey projective foliage cover		85%	

LF Code	Species typical of at least part of EVC range	Common Name
MH	Myriophyllum crispatum	Upright Milfoil
MH	Ludwigia peploides ssp. montevidensis	Clove-strip
MH	Nymphoides crenata	Wavy Marshwort
MH	Centipeda cunninghamii	Common Sneezeweed
SH	Azolla filiculoides	Pacific Azolla
SH	Persicaria prostrata	Creeping Knotweed
LTG	Juncus ingens	Giant Rush
MTG	Lachnagrostis filiformis	Common Blown Grass
MTG	Sporobolus mitchellii	Brown-back Wallaby-grass
MNG	Pseudoraphis spinescens	Spiny Mud-grass
MNG	Amphibromus fluitans	River Swamp Wallaby-grass
MNG	Eleocharis acuta	Common Spike-sedge
MNG	Cynodon dactylon var. pulchellus	Native Couch

### 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 809: Floodplain Grassy Wetland - Murray Mallee bioregion

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Murray Mallee bioregion

# EVC 810: Floodway Pond Herbland

## Description:

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

Medium to Ti Soil Crust * Largely seaso	nall Tufted Graminoid ny Non-tufted Graminoid nal life form	<b># Spp</b> 1 5 4 2 3 na	%Cover 1% 20% 15% 10% 20% 10% <b>75%</b>	LF code LH MH SH MTG MNG S/C	
LF Code MH MH SH SH SH SH MTG MNG MNG MNG	rstorey projective foliage cover Species typical of at least part Persicaria prostrata Centipeda cunninghamii Alternanthera denticulata s.l. Polygonum plebeium Dysphania glomulifera ssp. glomulifera Lemna disperma Lachnagrostis filiformis Pseudoraphis spinescens Carex gaudichaudiana Eleocharis acuta	t of EVC range	Com Cree Com Lesse Smal Glob Com Rat-t Spin Fen	nmon Name ping Knotweed mon Sneezeweed er Joyweed I Knotweed ular Pigweed mon Duckweed rail Couch y Mud Grass Sedge mon Spike-sedge	
Organic Litte 5% cover	d. Desirable period between disturbance	-			
Weediness: LF Code MH	<b>Typical Weed Species</b> <i>Callitriche stagnalis</i>	Common Nar Water Starwort	ne	<b>Invasive</b> high	Impact high



# EVC 810: Floodway Pond Herbland - Murray Mallee bioregion

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Murray Mallee 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 Eucalyptus cam Eucalyptus larg		<b>DBH(cm)</b> 70 cm 50 cm	<b>#/ha</b> 15 / ha		
Tree Canopy C %cover 20%	<b>Over:</b> Character Species Eucalyptus camaldulensis Eucalyptus largiflorens			<b>Commo</b> River Red Black Box	
Medium Shrub Small Shrub Large Herb Medium Herb Small or Prostra Medium to Sma Medium to Tiny	e or Large Shrub	#Sp 1 1 2 5 1 3 2 0 <b>ver</b>	5 5 5 5 1 1 5 3 3	%Cover % % % % 0% 0% 0% 0%	LF code IT T MS SS LH MH SH MTG MNG
	Species typical of at least Acacia stenophylla Muehlenbeckia florulenta Cressa cretica Stemodia florulenta Wahlenbergia fluminalis Haloragis aspera Centipeda cunninghamii Calocephalus sonderi Epaltes australis Sporobolus mitchellii Cyperus gymnocaulos Lachnagrostis filiformis Cynodon dactylon var. pulchellus		inge	River Tang Rosin Blue I River Roug Comr Pale I Sprea Rat-ta Sprin Comr	

Recruitment:

Continuous

**Organic Litter:** 

20 % cover

### Logs:

20 m/0.1 ha.

Weediness:

There are no consistent weeds in this EVC.



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Murray Mallee bioregion

# EVC 816: Sedgy Riverine Forest

## **Description:**

Eucalypt forest to 25 m tall with understorey dominated by larger sedges. Understorey composition indicative of at least occasional shallow flooding and a tolerance of gaps between floods of several years. Typically on heavy soils which can become wet in winter. It is considered to occupy areas infrequently flooded and in which flood duration may be short, typically areas that are the last to flood and the first from which floods quickly recede. Soils are typically heavy clays. The major understorey species *Carex tereticaulis* is intolerant of total immersion (at least in turbid water).

Large trees: Species		DBH(cm)	#/ha		
<i>Eucalyptus</i> spp.		80 cm	20 / ha		
Tree Canopy Co				-	
<b>%cover</b> 30%	Character Species Eucalyptus camaldulensis			Commo River Red	
Understorey:			-		
Life form Immature Canor	ov Tree	#Spj		%Cover	LF code IT
Medium Shrub	,	1	1	.0%	Т
Medium Herb		2	5	%	MH
Small or Prostrat	te Herb	2	5	%	SH
Large Tufted Graminoid		1	5	60%	LTG
Medium to Small Tufted Graminoid		2		.0%	MTG
,	Non-tufted Graminoid	2		.0%	MNG
Total unders	torey projective foliage co	over	9	0%	
	Species typical of at least	part of EVC ra	nge		nmon Name
	Exocarpos strictus				fruit Ballart
	Wahlenbergia fluminalis				Bluebell
	Senecio quadridentatus				n Fireweed
	<i>Brachyscome basaltica</i> var. <i>graci</i>	115			dland Swamp-daisy
	Marsilea drummondii Lobelia concolor				non Nardoo n Pratia
	Chamaesyce drummondii				
	Chamaesyce di uninonuli Carex tereticaulis				Spurge Sedge
	Setaria jubiflora				eqo Summer-grass
	Lachnagrostis filiformis				non Blown Grass
	Eleocharis acuta				non Spike-sedge
	Eleocahris pusilla				Spike-sedge
	•				

### **Recruitment:**

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

## **Organic Litter:**

10 % cover

### Logs:

20 m/0.1 ha.



# EVC 816: Sedgy Riverine Forest - Murray Mallee bioregion

## Weediness:

### LF Code LH

## **Typical Weed Species**

Helminthotheca echioides

Cirsium vulgare

LH Aster subulatus

## LH

LH

## Lactuca serriola

Common Name

Prickly Lettuce Aster Weed Prickly Ox-tongue Spear Thistle

#### Invasive Impact high low high low high low high high

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Murray Mallee bioregion

# EVC 818: Shrubby Riverine Woodland

## **Description:**

Eucalypt woodland to open forest to 15 m tall of less flood-prone (riverine) watercourse fringes, principally on levees and higher sections of point-bar deposits. The understorey includes a range of species shared with drier floodplain habitats with a sparse shrub component, ground-layer patchily dominated by various life-forms. A range of large dicot herbs (mostly herbaceous perennial, several with a growth-form approaching that of small shrub) are often conspicuous.

Large trees: Species		DBH(cm)	#/ha		
Eucalyptus largi	iflorens	50 cm	<b>5/ha</b>		
Eucalyptus langi Eucalyptus cam		80 cm	5/114		
Tree Canopy C	over:				
<b>%cover</b> 10%	Character Species Eucalyptus largiflorens Eucalyptus camaldulensis			Common Black Box River Red-	
Understorey:					
Life form		#Spp		%Cover	LF code
Immature Cano				5%	IT
	e or Large Shrub	1	-	5%	Т
Medium Shrub		2		.0%	MS
Small Shrub		2	-	5%	SS
Large Herb		4		.0%	LH
Medium Herb		5	_	.0%	MH
Small or Prostrate Herb*		2		.%	SH
	ll Tufted Graminoid	2	1	.0%	MTG
* Largely seasona					
Total unders	storey projective foliage c	over	5	50%	
T MS SS PS LH k LH LH MH k MH r MH r MH MH r MH MH	Species typical of at least Acacia stenophylla Muehlenbeckia florulenta Chenopodium nitrariaceum Enchylaena tomentosa var. tomu Sclerochlamys brachyptera Senecio cunninghamii var. cunni Senecio pinnatifolius Xerochrysum bracteatum Calotis cuneifolia Lotus australis Picris squarrosa Teucrium racemosum s.l. Setaria jubiflora	entosa	nge	River Tangl Nitre Ruby Short Branc Malle Golde Blue I Austra Squat Grey	mon Name Coobah led Lignum Goosefoot Saltbush -wing Saltbush thing Groundsel e Groundsel e Groundsel m Everlasting Burr-daisy al Trefoil t Picris Germander ego Summer-grass
Recruitment:					

Continuous

**Organic Litter:** 

10% cover

### Logs:

10m/0.1 ha.



# EVC 818: Shrubby Riverine Woodland - Murray Mallee bioregion

Weediness:				
LF Code	Typical Weed Species	Common Name	Invasive	Impact
Т	<i>Olea europaea</i> subsp. <i>europaea</i>	Olive	high	high
MS	Lycium ferocissimum	Boxthorn	high	high
LH	Śisymbrium erysimoides	Smooth Mustard	high	high
LH	Critesion spp.	Barley-grass	high	low
LH	Gazania linearis	Gazania	high	high
LH	<i>Opuntia</i> spp.	Prickly Pear	low	high
LH	Sisymbrium irio	London Mustard	high	high
LH	Psilocaulon granulicaule	Noon-flower	high	high
MH	Limonium sinuatum	Notch-leaf Sea-lavender	high	high
MH	Limonium lobatum	Winged Sea-lavender	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	Mesembryanthemum nodiflora	Ice-plant	high	high
MH	Carrichtera annua	Ward's Weed	high	high
MH	Marrubium vulgare	Horehound	high	high
MH	Carpobrotus aequilaterus	Angled Pigface	low	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	Medicago spp.	Medic	high	low
MH	Oxalis pes-caprae	Soursob	high	high
MH	Silene gallica	French Catchfly	high	low
MH	Silene nocturna	Mediterranean Catchfly	high	low
SH	Mesembryanthemum crystallinum	Common Ice-plant	high	high
MTG	Vulpia bromoides	Squirrel-tail Fescue	high	high
MTG	Lolium rigidum	Wimmera Rye-grass	high	low
MTG	Asphodelus fistulosus	Onion Weed	high	high
MNG	Bromus rubens	Red Brome	high	high
MNG	Vulpia myuros	Rat's-tail Fescue	high	low
MNG	Bromus spp.	Brome	high	high
MNG	Schismus barbatus	Arabian Grass	high	low
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee bioregion

## EVC 821: Tall Marsh

## Description:

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

### Life Forms:

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

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

## Recruitment:

Episodic/Flood: desirable period of disturbance is every year

### . . . . .

Organic Litter:

## 10% cover

### Logs:

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

### Weediness:

LF Code	Typical Weed Species
Т	Salix cinerea
MH	Rorippa palustris
MTG	Polyopogon monspeliensis
MNG	Paspalum distichum

**Common Name** Grey Sallow Yellow Marsh-cress Annual Beard-grass Water Couch Invasive high high high high Impact high high low high



# EVC 821: Tall Marsh - Murray Mallee bioregion

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Murray Mallee 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 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 Eucalyptus lan Eucalyptus ca	5	<b>DBH(cm)</b> 50 cm 70 cm	<b>#/ha</b> 15/ha		
Tree Canopy % cover 30%	<b>Cover:</b> <b>Character Species</b> <i>Eucalyptus largiflorens</i> <i>Eucalyptus camaldulensis</i> <i>Acacia stenophylla</i>			<b>Commo</b> Black Box River Rec River Coc	l Gum
Large Non-tuf Medium to Tir Soil Crust * Largely seaso	nopy Tree 5 * rate Herb* nall Tufted Graminoid* ted Graminoid ny Non-tufted Graminoid*	#Spj 2 1 2 8 5 3 1 3 1 3 na		<b>P%Cover</b> 5% 30% 5% 1% 10% 10% 10% 5% 15% 10% <b>B0%</b>	LF code IT MS SS MH MH SH SH MTG LNG MNG S/C
LF Code MS MS SS SS LH MH MH MH SH LNG MTG MTG MTG MTG MTG MTG MTG MTG MTG MT	Species typical of at least Muelenbekia florulenta Chenopodium nitrariaceum Muehlenbeckia florulenta Atriplex lindleyi Sclerolaena muricata Rumex spp. Marsilea drummondii Brachyscome ciliaris Euchiton sphaericus Ranunculus spp. Asperula gemella Eragrostis australasica Setaria jubiflora Austrodanthonia duttoniana Sporobolus mitchellii Eragrostis setifolia Eragrostis infecunda Eleocharis acuta Eleocharis pusilla	t part of EVC ra	nge	Tang Nitre Tang Flat- Five- Dock Com Varia Annu Butte Twin Cane Warn Brow Shor Brist Barne Com	mmon Name Jed Lignum is Goosefoot Jed Lignum top Saltbush spined Bassia mon Nardoo able Daisy Jal Cudweed ercup -leaf Bedstraw e Grass rego Summer-grass n-back Wallaby-grass t Rat-tail Grass by Love-grass en Cane grass mon Spike-sedge Il Spike-sedge



Recruitment Continuous	:			
Organic Litte 5% cover	er:			
<b>Logs:</b> 10m/0.1 ha.				
Weediness: LF Code SH	<b>Typical Weed Species</b> <i>Phyla canescens</i>	<b>Common Name</b> Lippia	<b>Invasive</b> high	<b>Impact</b> high
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Murray Mallee 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, herbs and grasses are also present. Typically occurs on fine textured red-brown sandy loam and clay loam soils.

Large trees: Species Eucalyptus spp.		<b>DBH(cm)</b> 15 cm	<b>#/ha</b> 30/ha	
Tree Canopy C	Cover:			
<b>% cover</b> 25%	Character Species Eucalyptus oleosa ssp. oleosa Eucalyptus dumosa Eucalyptus gracilis Eucalyptus calycogona Eucalyptus socialis Eucalyptus cyanophylla		Oil I Dun Yorı Red Gre	mmon Name Mallee nosa Mallee rell Mallee y Mallee e-leaved Mallee
Understorey:				
Life form Medium Shrub Small Shrub Medium Herb* Small or Prostra	III Tufted Graminoid nens	<b>#Spp</b> 6 6 7 1 na na	9 <b>%C0</b> 10% 20% 10% 10% 1% 10% 15%	ver LF code MS SS MH SH MTG BL S/C
Total under	storey projective foliage c	over	60%	
LF Code MS MS MS SS SS SS SS SS MH MH MH MH SH SH SH SH SH SH SH SH	Species typical of at least Santalum acuminatum Exocarpos aphyllus Acacia oswaldii Eremophila glabra Enchylaena tomentosa var. tome Chenopodium curvispicatum Olearia muelleri Maireana pentatropis Zygophyllum apiculatum Stenopetalum lineare Eriochiton sclerolaenoides Brachyscome ciliaris Calandrinia eremaea Ptilotus seminudus Rhodanthe pygmaea Isoetopsis graminifolia Austrostipa elegantissima		ıge	<b>Common Name</b> Sweet Quandong Leafless Ballart Umbrella Wattle Common Emu-bush Ruby Saltbush Cottony Goosefoot Mueller Daisy-bush Erect Bluebush Pointed Twin-leaf Narrow Thread-petal Wooly-fruit Bluebush Variable Daisy Small Purslane Rabbit Tails Pygmy Sunray Grass Cushion Feather Spear-grass



### **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
Т	<i>Olea europaea</i> subsp. <i>europaea</i>	Olive	high	high
MS	Lycium ferocissimum	Boxthorn	high	high
LH	<i>Opuntia</i> spp.	Prickly Pear	high	high
LH	Critesion spp.	Barley-grass	high	low
LH	Gazania linearis	Gazania	high	high
LH	Psilocaulon granulicaule	Noon-flower	high	high
LH	Sisymbrium erysimoides	Smooth Mustard	high	high
LH	Sisymbrium irio	London Mustard	high	high
MH	Brassica tournefortii	Mediterranean Turnip	high	high
MH	Carpobrotus aequilaterus	Angled Pigface	high	high
MH	Medicago spp.	Medic	high	low
MH	Marrubium vulgare	Horehound	high	high
MH	Oxalis pes-caprae	Soursob	high	high
MH	<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	high	low
MH	Mesembryanthemum nodiflora	Ice-plant	high	high
MH	Carrichtera annua	Ward's Weed	high	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
MH	Silene gallica	French Catchfly	high	low
MH	Silene nocturna	Mediterranean Catchfly	high	low
MH	Limonium sinuatum	Notch-leaf Sea-lavender	high	high
MH	Limonium lobatum	Winged Sea-lavender	high	high
SH	Mesembryanthemum crystallinum	Common Ice-plant	high	high
MNG	Schismus barbatus	Arabian Grass	high	low
MTG	Asphodelus fistulosus	Onion Weed	high	high
MTG	Lolium rigidum	Wimmera Rye-grass	high	low
MNG	Bromus spp.	Brome	high	high
MNG	Vulpia myuros	Rat's-tail Fescue	high	low
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee 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* ssp. *murrayensis* to 10 m tall being the dominant trees. Widespread on the northern plains.

<sup>+</sup> woodland <u>only</u> components (ignore when assessing grassland areas and standardise final score as appropriate)

Large trees <sup>+</sup> : Species Allocasuarina lu Callitris gracilis	<i>iehmannii</i> ssp. <i>murrayensis</i>	<b>DBH(cm)</b> 40 cm 40 cm	<b>#/ha</b> 5/ha	
Tree Canopy C % cover 10%	over <sup>+</sup> : Character Species Allocasuarina luehmannii Callitris gracilis ssp. murrayensis		Buloke	<b>n Name</b> ypress-pine
Understorey: Life form Immature Canopy Tree <sup>+</sup> Understorey Tree or Large Shrub <sup>+</sup> Small Shrub Large Herb Medium Herb* Small or Prostrate Herb* Large Tufted Graminoid Large Non-tufted Graminoid Medium to Small Tufted Graminoid Medium to Tiny Non-tufted Graminoid* Bryophytes/Lichens Soil Crust * Largely seasonal life form		<b>#Spp</b> 2 3 6 3 1 1 5 2 na na	<b>%Cover</b> 5% 5% 5% 20% 10% 5% 35% 5% 35% 5% 10% 25%	LF code IT T SS LH MH SH LTG LNG MTG MNG BL S/C
T MS SS SS SS LH LH LH LH LH LH LH HH MH SH SH SH SH SH SH SH SH SH SH SH SH SH	Species typical of at least part Acacia pendula Acacia oswaldii Sclerolaena napiformis Sclerolaena diacantha Maireana decalvans Pimelea curviflora s.s. Ptilotus exaltatus Eryngium ovinum Calocephalus citreus Arthropodium fimbriatum Calocephalus citreus Austroscipa pinatifida Sida corrugata Ptilotus macrocephalus Maireana pentagona Chamaesyce drummondii Pogonolepis muelleriana Convolvulus erubescens spp. agg. Austrostipa blackii Austrostipa aristiglumis Austrostipa scabra Austrostipa nodosa Whalleya proluta Austrodanthonia duttoniana	of EVC range	Boree Umbri Turnij Grey ( Black Curve Mulla Blue I Lemo Noddi Rougl Cut-le Variat Feath Hairy Flat S Stiff C Pink E Creste Spurm Plump Rougl Knotty Rigid	ella Wattle o Copperburr Copperburr Cotton-bush d Rice-flower Mulla Devil n Beauty-heads ng Chocolate-lily n Burr-daisy af Goodenia ole Sida er Heads Bluebush purge Lup-flower Sindweed ed Spear-grass o Spear-grass o Spear-grass o Spear-grass



### **Recruitment:**

Continuous

## **Organic Litter:**

5% cover

Logs<sup>+</sup>: 5 m/0.1 ha.

### Weediness:

Weediness:				
LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	Lycium ferocissimum	Boxthorn	high	high
LH	Helminthotheca echioides	Ox-tongue	high	low
LH	Lepidium africanum	Common Peppercress	high	low
LH	Salvia verbenaca	Wild Sage	high	high
LH	Echium plantagineum	Patterson's curse	high	high
LH	Sisymbrium irio	London Rocket	high	high
LH	Marrubium vulgare	Horehound	high	high
LNG	Avena fatua	Wild Oat	high	high
MH	Limonium sinuatum	Notch-leaf Sea-lavender	high	high
MH	Arctotheca calendula	Cape Weed	high	high
MH	Hypochoeris glabra	Smooth Cat's-ear	high	low
MH	Hypochoeris radicata	Cat's Ear	high	low
MH	Oxalis pes-caprae	Soursob	high	high
MH	Plantago coronopus	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	Trifolium striatum	Knotted Clover	high	low
MH	Trifolium subterraneum	Subterranean Clover	high	low
MH	Hedypnois cretica	Cretan Hedypnois	high	high
MNG	Aira cupaniana	Quicksilver Grass	high	low
MNG	Avena barbata	Bearded Oat	high	high
MNG	Brachypodium distachyon	False Brome	high	high
MNG	Juncus capitatus	Capitate Rush	high	high
MNG	Vulpia muralis	Wall Fescue	high	high
MNG	Vulpia myuros	Rat's-tail Fescue	high	high
MTG	Bromus diandrus	Great Brome	high	high
MTG	Critesion hystrix	Mediterranean Barley-grass	high	high
MTG	Critesion murinum	Barley-grass	high	high
MTG	Lolium rigidum	Wimmera Rye-grass	high	high
MTG	Pentaschistis airoides ssp. airoides	False Hair-grass	high	low
MTG	Poa bulbosa	Bulbous Meadow-grass	high	high
MTG	Romulea minutiflora	Small-flower Onion-grass	high	high
MTG	Romulea rosea	Onion Grass	high	high
MTG	Vulpia bromoides	Squirrel-tail Fescue	high	high
SH	Medicago minima	Little Medic	high	high
SH	Medicago polymorpha	Burr Medic	high	high
SH	Trifolium glomeratum	Cluster Clover	high	low

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Murray Mallee bioregion

# EVC 828: Semi-arid Parilla Woodland

## **Description:**

A shrubby, non-eucalypt woodland or open forest to 15 m tall of low rainfall areas associated with topographic highs created by weathered Parilla sandstone ridges and dominated by Belah *Casuarina pauper*. This EVC represents a distinctive floristic segregate of Semi-arid Woodland – comprising relatively undisturbed remnants of this broader vegetation descriptor with little or no groundwater influence.

Large trees:					
Species		DBH(cm)	#/ha		
Casuarina spp.		40 cm	20/ha		
Callitris gracilis	ssp. <i>murrayensis</i>	40 cm			
Tree Canopy (	Cover:				
% cover	Character Species			Commo	n Name
20%	Casuarina pauper			Belah	
	Callitris gracilis ssp. murrayensis			Slender C	ypress-pine
Understorey:					
Life form		#Sp	р	%Cover	LF code
Immature Can	opy Tree	-	-	5%	IT
Medium Shrub	.,	4		10%	MS
Small Shrub		4		10%	SS
Large Herb		2		5%	LH
Medium Herb*		10		10%	MH
Large Non-tuft	ed Graminoid	1		1%	LNG
Medium to Sm	all Tufted Graminoid	2		15%	MTG
Medium to Tiny	y Non-tufted Graminoid	1		5%	MNG
Epiphyte		1		1%	EP
Bryophytes/Lic	hens	na		5%	BL
Soil Crust		na		30%	S/C
* Largely season	al life form				
Total under	storey projective foliage cov	/er		85%	
LF Code	Species typical of at least p	art of EVC ra	nge	Com	mon Name
MS	Acacia oswaldii			Umbr	ella Wattle
MS	Exocarpos aphyllus			Leafle	ess Ballart
MS	Alectryon oleifolius ssp. canescens			Cattle	e Bush
MS	Dodonaea viscosa ssp. angustissin	na		Slend	ler Hop-bush
SS	Olearia pimeleoides				ea Daisy-bush
SS	Olearia muelleri				er Daisy-bush
SS	Sclerolaena diacantha				Copperburr
SS	Chenopodium curvispicatum				ny Saltbush
MH	<i>Einadia nutans</i> ssp. <i>nutans</i>				ing Saltbush
MH	Podolepis capillaris				Podolepis
MH	Chenopodium desertorum ssp. des	ertorum			ed Goosefoot
LNG	Austrostipa platychaeta				wned Spear-grass
MTG	Austrostipa spp.				r Grasses
MNG	Austrostipa elegantissima			Feath	er Spear-grass



### **Recruitment:**

Continuous

### **Organic Litter:**

10% cover Logs:

12m/0.1 ha.

### Weediness:

LF Code MH

SH SC

**Typical Weed Species** Reichardia tingitana Mesembryanthemum crystallinum Asparagus asparagoides

Common Name
False Sow-thistle
Common Ice-plant

Bridal Creeper

Invasive high high high

Impact low high high

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Murray Mallee bioregion

# EVC 829: Chenopod Grassland

## Description:

SH

LTG

MTG

MTG

MTG MTG

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	%Co	
Medium Shrub		1	10%	MS
Small Shrub		6	30%	SS
Large Herb		1	1%	LH
Medium Herbs	*	5	15%	MH
Small or Prostr	rate Herbs*	4	5%	SH
Medium to Sm	all Tufted Graminoid	3	20%	MTG
Bryophytes/Lic	hens	na	10%	BL
Soil Crust		na	20%	S/C
* Largely season	al life form			
LF Code	Species typical of at least part of	EVC range		Common Name
MS	Lycium australe			Australian Box-thorn
MS	Nitraria billardierei			Nitre-bush
SS	Sclerolaena diacantha			Grey Copperburr
SS	Maireana aphylla			Leafless Bluebush
SS	Minuria cunninghamii			Bush Minuria
SS	Lawrencia squamata			Thorny Lawrencia
PS	Sclerochlamys brachyptera			Short-wing Saltbush
PS	Atriplex semibaccata			Berry Saltbush
LH	Podolepis canescens			Grey Podolepis
MH	Rhodanthe stuartiana			Clay Sunray
MH	Teucrium racemosum s.s.			Grey Germander
MH	Maireana excavata			Bottle Bluebush
MH	Sida corrugata			Variable Sida
SH	Hyalosperma glutinosum ssp. glutinosum			Golden Sunray
SH	Hyalosperma semisterile			Orange Sunray
SH	Rhodanthe pygmaea			Pygmy Sunray



Stiff Cup-flower

Spear-grass

**Rigid Panic** 

Spider Grass

Plump Spear-grass

. Bristly Wallaby-grass

Pogonolepis muelleriana

Austrostipa aristiglumis

Enteropogon acicularis

Austrodanthonia setacea

Austrostipa spp.

Whalleya proluta

### **Recruitment:**

Continuous

### **Organic Litter:** 5% cover

## Weediness:

LF Code	Typical Weed Species
LH	Carthamus lanatus
MH	Limonium lobatum
MH	Hedypnois cretica
MH	Arctotheca calendula
MH	Romulea rosea
SH	Moraea setifolia
SH	<i>Medicago</i> spp.
MTG	Critesion murinum subsp. leporinum
MNG	Bromus madritensis
MNG	Lolium rigidum

Common Name	Invasive	Impact
Saffron Thistle	high	high
Winged Sea-lavender	high	high
Cretan Hedypnois	high	high
Cape Weed	high	high
Onion Grass	high	high
Thread Iris	high	high
Medic	high	high
Wall Barley-grass	high	high
Madrid Brome	high	high
Wimmera Rye-grass	high	high

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Murray Mallee bioregion

# EVC 882: 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 Eucalyptus spp. Allocasuarina lu Callitris gracilis Tree Canopy Co % cover 20%	ssp. <i>murrayensis</i>	<b>DBH(cm)</b> 60 cm 40 cm 40 cm	<b>#/ha</b> 15/ha	<b>Commo</b> Yellow Gi	on Name
2070	Allocasuarina luehmannii Callitris gracilis ssp. murrayens	is		Buloke	Cypress-pine
Medium Shrub Small Shrub Prostrate Shrub Large Herb Medium Herb Small or Prostra Medium to Smal Tiny Tufted Grai	e or Large Shrub te Herb II Tufted Graminoid minoid* Non-tufted Graminoid ens	#Spr 1 3 4 2 1 7 3 8 2 3 na na na		<b>%Cover</b> 5% 5% 10% 20% 5% 1% 15% 5% 25% 1% 1% 1% 10% 10%	LF code IT T MS SS PS LH MH SH MTG TTG MNG BL S/C
T MS MS SS SS SS SS PS MH MH MH SH SH SH SH LTG MTG MTG MTG MTG TTG TTG TTG	Species typical of at least Allocasuarina verticillata Calytrix tetragona Acacia pycnantha Hibbertia stricta s.l. Eutaxia microphylla Pultenaea hispidula Astroloma humifusum Microseris scapigera spp. agg. Acaena echinata Wurmbea dioica Daucus glochidiatus Hydrocotyle laxiflora Drosera whittakeri ssp. aberrans Austrostipa mollis Schoenus apogon Neurachne alopecuroidea Lomandra nana Arthropodium strictum s.l. Centrolepis strigosa ssp. strigosa Centrolepis aristata Aphelia pumilio Thysanotus patersonii		nge	Com Gold Uprig Com Rust Cran Yam Shee Com Aust Stink Scen Supp Com Fox- Dwa Choo Hain Poin Dwa	nmon Name pping Sheoke mon Fringe-myrtle en Wattle ght Guinea-flower mon Eutaxia y Bush-pea berry Heath Daisy ep's Burr mon Early Nancy ralian Carrot sing Pennywort ited Sundew ble Spear-grass mon Bog-sedge tail Mulga-grass rf Mat-rush colate Lily y Centrolepis ted Centrolepis rf Aphelia ing Fringe-lily



### **Recruitment:**

Continuous

### **Organic Litter:**

20% cover

### Logs:

20m/0.1 ha.

### Weediness:

weeumess.	1			
LF Code	Typical Weed Species	Common Name	Invasive	Impact
Т	Olea europaea	Olive	high	high
MS	Lycium ferocissimum	Boxthorn	high	high
LH	Centaurium tenuiflorum	Slender Centaury	high	low
MH	Hypochoeris radicata	Cat's Ear	high	low
MH	Hypochoeris glabra	Smooth Cat's-ear	high	low
MH	Trifolium campestre var. campestre	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	Petrorhagia velutina	Velvety Pink	high	low
MTG	Briza minor	Lesser Quaking-grass	high	low
MTG	Briza maxima	Large Quaking-grass	high	low
MTG	Romulea rosea	Onion Grass	high	high
MTG	Vulpia bromoides	Squirrel-tail Fescue	high	high
MNG	Aira elegantissima	Delicate Hair-grass	high	low
MNG	Ehrharta calycina	Perennial Veldt Grass	high	high
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	high
MNG	Juncus capitatus	Capitate Rush	high	low
MNG	Bromus rubens	Red Brome	high	high
SC	Asparagus asparagoides	Bridal Creeper	high	high

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Murray Mallee bioregion

# EVC 981: Parilla Mallee

## **Description:**

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 Eucalyptus spp Callitris spp.	).	<b>DBH(cm)</b> 20 cm 35 cm	<b>#/ha</b> 25/ha		
Tree Canopy	Cover:				
<b>% cover</b> 25%	<b>Character Species</b> <i>Eucalyptus oleosa</i> ssp. <i>oleosa</i> <i>Eucalyptus socialis</i> <i>Eucalyptus dumosa</i> <i>Callitris gracilis</i> ssp. <i>murrayensis</i>			<b>Commo</b> Oil Mallee Grey Malle Dumosa M Slender Cy	e
Understorey:					
Life form		#Spj	<b>)</b> 0	<b>%Cover</b>	LF code
Immature Can	opy Tree		5	%	IT
Medium Shrub		4		0%	MS
Small Shrub		3		0%	SS
Large Herb		1	-	%	LH
Medium Herb	anta Ulauk	3	-	%	MH
Small or Prostr		5 6		% 50/	SH MTG
	all Tufted Graminoid	о 1		5% %	MNG
Bryophytes/Lic	y Non-tufted Graminoid	na	-	0%	BI
Soil Crust		na		0%	S/C
	storey projective foliage c			50%	5/0
i otai unuei	storey projective rollage c	UVCI	Ŭ		
LF Code	Species typical of at least	part of EVC ra	nge	Com	mon Name
MS	Pittosporum angustifolium	•	5	Weep	ing Pittosporum
MS	Melaleuca lanceolata ssp. lanceo	lata		Moon	
MS	Acacia pycnantha			Golde	n Wattle
MS	Acacia brachybotrya			Grey	Mulga
SS	Olearia lanuginosa				y Daisy-bush
SS	Westringia rigida				Vestringia
SS	Enchylaena tomentosa var. tome	entosa			Saltbush
SS	Maireana brevifolia				-leaf Bluebush
MH	Helichrysum leucopsideum				Everlasting
SH	Daucus glochidiatus				al Carrot
SH	Calandrinia calyptrata				Purslane
MTG	<i>Austrostipa</i> spp.				-grass
MTG MTG	<i>Dianella revoluta</i> s.l. <i>Austrodanthonia setacea</i>				-anther Flax-lily / Wallaby-grass
MTG	Austrodanthonia caespitosa				non Wallaby-grass
MNG	Austrostipa elegantissima				er Spear-grass
MNG	Austrostipa platychaeta				wned Spear-grass
MNG	Austrostipa eremophila				t Spear-grass
SC	Clematis microphylla				-leaved Clematis
	, ,			-	



### **Recruitment:**

Continuous (excluding eucalypt overstorey)

### **Organic Litter:**

20% cover

### Logs:

15m/0.1 ha.

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
Т	Olea europaea	Olive	high	high
MS	Lycium ferocissimum	Boxthorn	high	high
LH	Brassica tournefortii	Mediterranean Turnip	high	high
LH	Centaurium tenuiflorum	Slender Centaury	high	low
LH	Gazania linearis	Gazania	high	high
LH	<i>Sysimbrium</i> spp.	Mustard	high	high
LH	Opuntia robusta	Wheel Cactus	high	high
MH	Mesembryanthemum nodiflora	Ice-plant	high	high
MH	Carrichtera annua	Ward's Weed	high	high
MH	<i>Silene apetala</i> var. <i>apetala</i>	Sand Catchfly	high	low
SH	Mesembryanthemum crystallinum	Common Ice-plant	high	high
MNG	Bromus spp.	Brome	high	high
MNG	Schismus barbatus	Arabian Grass	high	low
MNG	<i>Vulpia myuros</i> f. <i>myuros</i>	Rat's-tail Fescue	high	high
MNG	Juncus capitatus	Capitate Rush	high	low
MNG	Bromus rubens	Red Brome	high	high
SC	Asparagus asparagoides	Bridal Creeper	high	high

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