

Gippsland Vegetation Types: Ecological Vegetation Classes (EVC's)

EVC description derived from Davies et.al (2001) Ecological Vegetation Class Mapping at 1:25 000 in Gippsland.

EVC 32 Warm Temperate Rainforest

Restricted to topographically protected sites in warm temperate climatic zones where it generally occupies gullies and slopes with southerly or easterly aspects from sea level to the foothills and where mean annual rainfall is in excess of 700mm. It often develops on river flats on the coastal plains of East Gippsland and even on sand dunes. In lower rainfall areas it may grow on even more exposed landforms such as sea cliffs, riverine cliffs, lake shores, provided the sites are fire-protected by either large expanses of open water such as lakes and estuaries.

East Gippsland:

This EVC contains several floristic communities described in Peel (1999). Warm Temperate Rainforest is an extensive class occurring on a wide range of geologies in fire protected niches such as gullies. Rainfall is between 630 – 1200mm p.a. The elevation range is from sea level to 750m.

In general terms Lilly-pilly *Acmena smithii* is the dominant canopy species, with Sweet Pittosporum *Pittosporum undulatum*, Muttonwood *Rapanea howittiana*, Yellow-wood *Acronychia oblongifolia*, Kanooka *Tristaniopsis laurina* or Eastern Leatherwood *Eucryphia moorei* occurring as sub- or co-dominants. Kanooka is generally more common in riparian situations. Common Boobialla *Myoporum insulare* occurs in coastal areas in this EVC. Blackwood *Acacia melanoxylon* may occur as a canopy dominant or as an emergent above the closed canopy. Emergent eucalypts that occur with Warm Temperate Rainforest on alluvial terraces include Mountain Grey Gum *Eucalyptus cytellocarpa* and River Peppermint *E. elata*. At altitudes between 300 – 700m on escarpments of the Errinundra Plateau, Cut-tail *E. fastigata* occurs in this EVC.

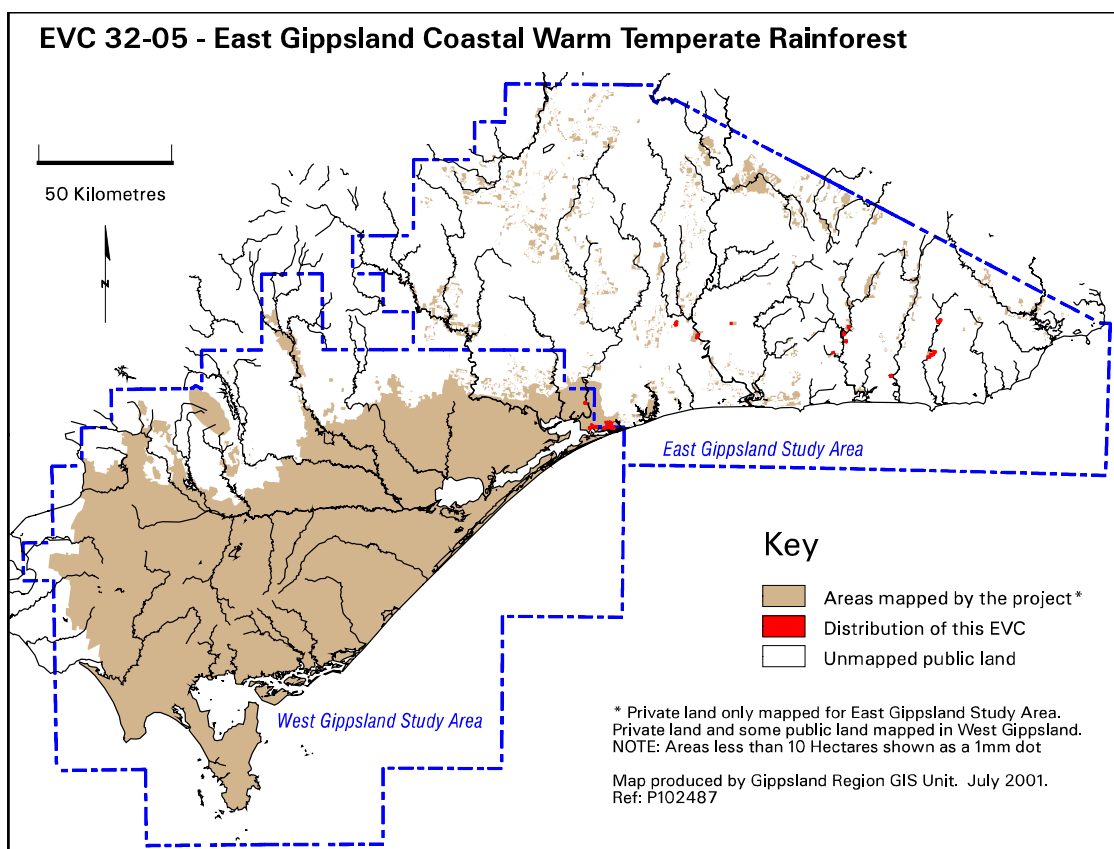
The understorey is somewhat floristically depauperate and variously consists of a low to medium shrublayer in which Hop Goodenia *Goodenia ovata*, Forest Nightshade *Solanum prinophyllum*, Snow Daisy-bush *Olearia lirata*, Prickly Currant-bush *Coprosma quadrifida* or Large Mock-olive *Notelaea venosa* are usually present. Blue Olive-berry *Eleaocarpus reticulatus* and Gippsland Waratah *Telopea oreades* occur as tall shrubs to small trees in the understorey.

A feature of this EVC is the abundance and diversity of lianes present. There are up to fifteen species of lianes present including Jungle Grape *Cissus hypoglauca*, Milk-vine *Marsdenia rostrata*, Jasmine Morinda *Morinda jasminoides*, Forest Clematis *Clematis glycinoides*, Austral Sarsaparilla *Smilax australis* and Wombat-berry *Eustrephus latifolius*. The rare Butterfly Orchid *Sarcochilus australis* is sometimes present, being epiphytic on a number of host plants including Prickly Currant-bush *Coprosma quadrifida*, Austral Mulberry *Hedycarya angustifolia*, Hazel Pomaderris *Pomaderris aspera* and Kanooka *Tristaniopsis laurina*.

The ground layer consists of herbs that may include Shade Nettle *Australina pusilla* subsp. *muelleri*, White Elderberry *Sambucus gaudichaudiana*, Forest Starwort *Stellaria flaccida*, Indian Weed *Sigesbeckia orientalis*, Scrub Nettle *Urtica incisa* and Fireweed Groundsel *Senecio linearifolius*. The ground layer is dominated by ferns that include Rough Tree-fern *Cyathea australis* and Soft Tree-fern *Dicksonia antarctica*, together with groundferns including Leathery Shield-fern *Rumohra adiantiformis*, Bat's Wing fern *Histiopteris incisa*, Downy Ground-fern *Hypolepis glandulifera*, Jungle Brake *Pteris umbrosa* or Shiny Shield-fern *Lastreopsis acuminata*.

Floristic Community 32-05 East Gippsland Coastal Warm Temperate Rainforest

Elevation (metres above sea level)	<65
Average rainfall p.a. (mm)	750-850
Topography	Protected gullies and slopes
Geology	Tertiary outwash alluviums, Tertiary limestone
Soils	Generally well drained, gradational sandy clay to clay loam
Related/adjacent EVCs/FCs	Dry Rainforest, Damp Forest, Coast Banksia Woodland, Wet Forest, Cool Temperate Rainforest
Present land use	Agriculture, recreation, nature conservation
Present distribution	Between Lakes Entrance and the Marlo estuary
Examples of sites/quadrats/lists	Metung east to Lake Tyers, Lower Snowy River and Marlo Estuary
Total Area(ha)/ Number of polygons	104/42



Vegetation: structure/floristics:

Eucalypts are notably infrequent with the overstorey layer consisting of a dense cover of Lilly Pilly *Acmena smithii*, Sweet Pittosporum *Pittosporum undulatum*, Musk Daisy-bush *Olearia argophylla*, Hazel Pomaderris *Pomaderris aspera*, Muttonwood *Rapanea howittiana* and Yellowwood *Acronychia oblongifolia*. Blackwood *Acacia melanoxylon* is also often present.

East Gippsland Coastal Warm Temperate Rainforest is characterised by the presence of a number of indicative vines such as Bearded Tylophora *Tylophora barbata*, Austral Sarsaparilla *Smilax australis*, Staff Climber *Celastrus australis* and Milk-vine *Marsdenia rostrata*. The most characteristic species is the vine Wombat Berry *Eustrephus latifolius* as well as Basket-grass *Oplismenus hirtellus*, Scrambling Lily *Geitonoplesium cymosum* and Jasmine Morinda *Morinda jasminoides*. Other species with a high fidelity include Northern Cranesbill *Gernaïum homeanum*, Black-fruit Saw-sedge *Gahnia melanocarpa* and Yellow Milk-vine *Marsdenia flavescens*. This EVC is also characterised by the absence of tree-ferns and the presence of a depauperate drought fern-flora that includes Tender Brake *Pteris tremula*, Prickly Rasp-fern *Doodia aspera* and Austral Bracken *Pteridium esculentum*. The rare viscid Daisy-bush *Olearia viscosa* is also present.

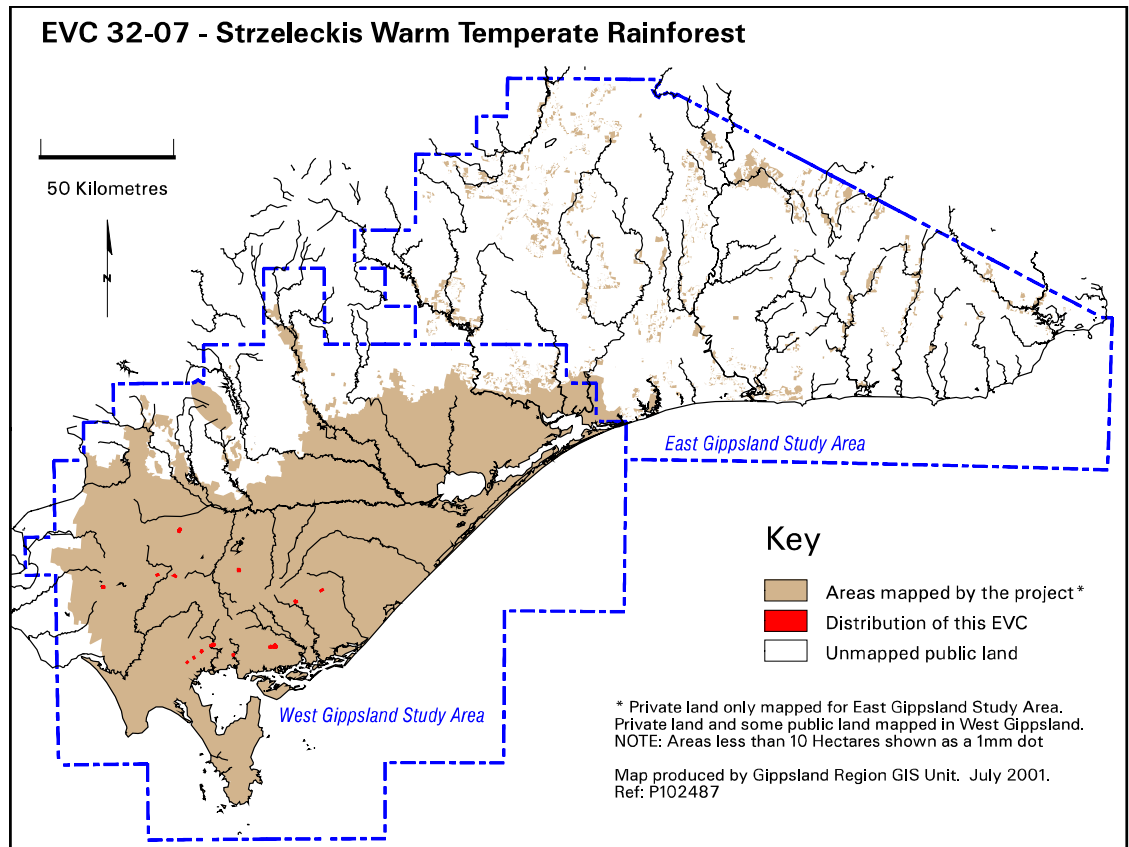
Comments:

East Gippsland Coastal Warm Temperate Rainforest is characterised by the very high number of species with a high fidelity which reflects the unique floristics found in the warm temperate climate in East Gippsland coastal areas such as Lakes Entrance. Warm Temperate Rainforest has close floristic affinities with Coast Banksia Woodland and Damp Forest.

Floristic Community 32-07 *Strzeleckis* Warm Temperate Rainforest

Elevation (metres above sea level)	80-240
Average rainfall p.a. (mm)	800-1000
Topography	Protected slopes and gullies
Geology	Cretaceous feldspathic mudstone and arkose sandstone
Soils	Deep grey to dark greyish-brown friable loam
Related/adjacent EVCs/FCs	Damp Forest, Herb-rich Foothill Forest, Wet Forest

Present land use	Nature conservation, recreation, timber harvesting, water catchment
Present distribution	Restricted to the Strzelecki ranges lowland valleys
Examples of sites/quadrats/lists	Alberton West State Forest (U23225), Grand Ridge Rd near Dickies Hill Reserve (U23371), Hallston (U23417), Ness Creek Reservoir, Korumburra (U23443)
Total Area(ha)/ Number of polygons	97/29



Vegetation: structure/floristics:

(The description below is based on species lists from a limited number of sites.)

The overstorey is often dominated by Mountain Grey Gum *Eucalyptus cypellocarpa*, Gippsland Blue Gum *E. globulus* subsp. *pseudoglobulus*, Messmate *E. obliqua* and Yellow Stringybark *E. muelleriana*. Blackwood *Acacia melanoxylon* is a common emergent as many sites have been cleared and/or logged in the past. Other more common secondary species include Austral Mulberry *Hedycarya angustifolia* and Hazel Pomaderris *Pomaderris aspera* that often act as canopy trees. In less disturbed sites, Sweet Pittosporum *Pittosporum undulatum* and Muttonwood *Rapanea howittiana* are well represented as the primary canopy species (Peel 1999).

The canopy is covered with climbers including Forest Clematis *Clematis glycinoides*, Wonga Vine *Pandorea pandorana*, and to a lesser extent Twining Silkpod *Parsonia brownii*. The understorey is characteristically open with only one shrub species, Prickly Currant-bush *Coprosma quadrifida* ever dominant. Other species recorded from gaps in the community include Musk Daisy-bush *Olearia argophylla*, Snowy Daisy Bush *O. lirata*, Elderberry *Panax Polyscias sambucifolia*, Victorian Christmas Bush *Prostanthera lasianthos*, Forest Nightshade *Solanum prinophyllum*, Kangaroo Apple *S. aviculare* and Scrub Nettle *Urtica incisa*.

Herbs dominate the ground cover where more light penetrates through the canopy, or it is sparse and litter-dominated in the shadier areas. Common herbs include Shade Plantain *Plantago debilis*, Weeping Grass *Microlaena stipoides* var. *stipoides*, Forest Starwort *Stellaria flaccida*, Forest Hound's-tongue *Austrocynoglossum latifolium* and Yellow Wood-sorrel *Oxalis corniculata* s.l. Other species present are the ferns Necklace Fern *Asplenium flabellifolium* (indicative of the drier understorey conditions), Sickle Fern *Pellaea falcata*, Tender

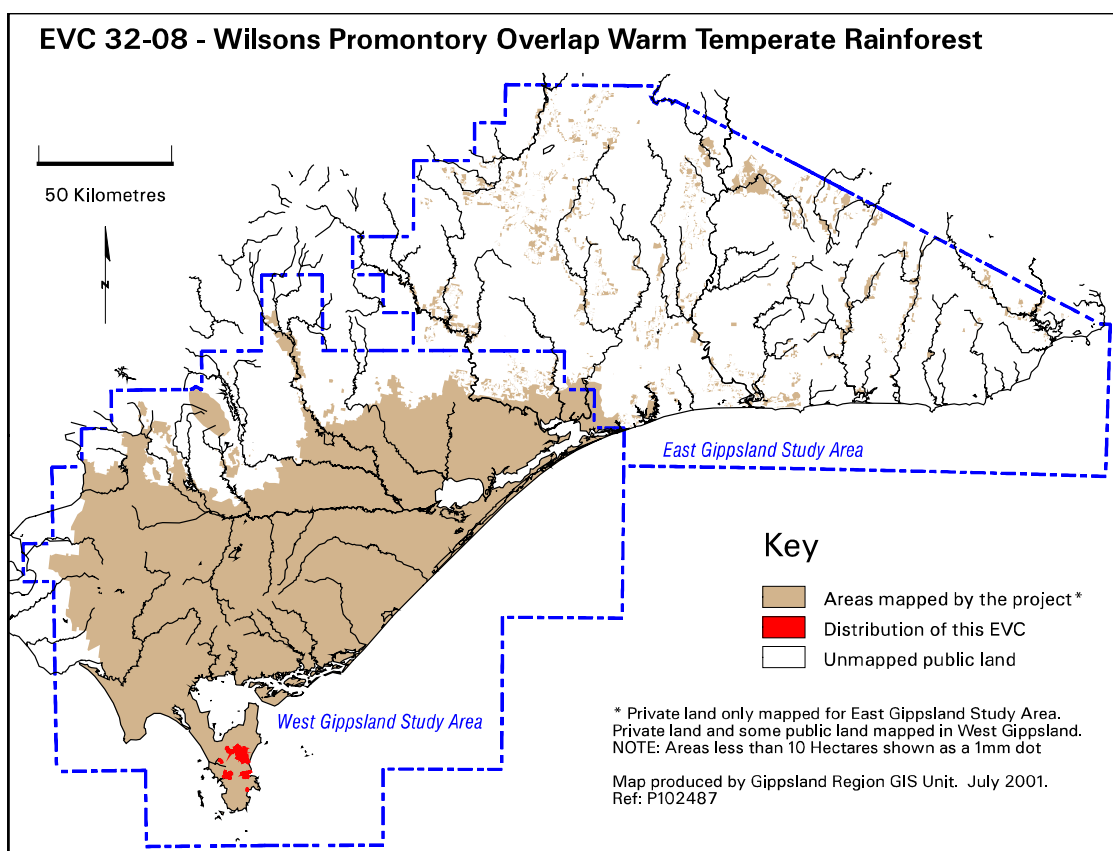
Brake *Pteris tremula*, Mother Shield-fern *Polystichum proliferum*, Tall Sword-sedge *Lepidosperma elatius* and Tussock-grass *Poa* spp.

Comments:

This floristic community was not identified by the quadrat analysis. This may result from limited quadrat sampling available on the Flora Information System. Further studies are needed to verify its status and relationship with Damp Forest.

Floristic Community 32-08 *Wilson's Promontory Overlap Warm Temperate Rainforest*

Elevation (metres above sea level)	<400
Average rainfall p.a. (mm)	900-1000
Topography	Topographically protected lowland valleys, gullies and major river flats
Geology	Devonian granite and Quaternary deposits
Soils	Deep, dark brown, sandy, organic colluviums or silty Alluviums
Related/adjacent EVCs/FCs	<i>Strzeleckis</i> Warm Temperate Rainforest, <i>East Gippsland Coastal</i> Warm Temperate Rainforest, Wet Forest, Damp Forest
Present land use	Nature conservation, recreation
Present distribution	Topographically protected low altitude areas of the central, west and eastern parts of Wilsons Promontory National Park
Examples of sites/quadrats/lists	North-west of Freshwater Lake (F48775), Chinaman's Creek at intersection with Five Mile Rd. (U23658) and Lilly-pilly Gully (Wilson's Promontory National Park)
Total Area(ha)/ Number of polygons	1,009/47



Vegetation: structure/floristics:

Stronghold areas are often free of eucalypts but sometimes include Messmate *Eucalyptus obliqua* and Blue Gum *E. globulus* subsp. *pseudoglobulus* and tend towards a park-like, open structure. A dense, tall shrub/small tree cover of Lilly-pilly *Acmena smithii* is typically present as well as Musk Daisy-bush *Olearia argophylla*, Blue Oliveberry *Elaeocarpus reticulatus*, Austral Mulberry *Hedycarya angustifolia*, and Hazel Pomaderris *Pomaderris aspera* with emergent Blackwood *Acacia melanoxylon* over a relatively open understorey that includes Prickly Currant-bush *Coprosma quadrifida*.

Wilsons Promontory Overlap Warm Temperate Rainforest includes numerous tree-ferns, ground ferns and epiphytic ferns. These include Soft Tree-fern *Dicksonia antarctica*, Rough Tree-fern *Cyathea australis*, and the ground-ferns Mother Shield-fern *Polystichum proliferum*, Shiny Shield-fern *Lastreopsis acuminata*, Leathery Shield-fern *Rumohra adiantiformis*, Austral Bracken *Pteridium esculentum*, Hard Water-fern *Blechnum watsii*, Gristle Fern *B. cartilagineum* and Fishbone Water-fern *B. nudum*. The epiphytic dicotyledon, Fieldia *Fieldia australis*, is also common, as is Fragrant Fern *Microsorium scandens* and Kangaroo Fern *M. pustulatum*.

Impeded drainage is indicated by the presence of the sedges, Brickmakers' Saw-sedge *Gahnia grandis* and Tall Sedge *Carex appressa* as well as the tree fern, Austral King-fern *Todea barbara*.

Comments:

Wilsons Promontory represents the southern biogeographic limit of Warm Temperate Rainforest in Australia (Peel 1999).

Gippsland species list including species frequency and fidelity.

- Fidelity:** Rating of faithfulness of a species to an EVC or Floristic Community. Highest fidelity rating indicated by an "F" ie species only recorded in respective group.
- % Frequency:** Percentage occurrence of a species/taxa in an EVC or Floristic Community – **NB. Species highlighted in red are the most frequent and important.**
- * = weed ie: non native.
- Rarity categories from NRE's Flora Information System (FIS).

EVC 32: WARM TEMPERATE RAINFOREST

Lifeform	Scientific Name	Common Name	% Fr	F
Trees/	<i>Acmena smithii</i>	Lilly Pilly	83	322
Tall Shrubs	<i>Pittosporum undulatum</i>	Sweet Pittosporum	70	19
	<i>Acacia melanoxylon</i>	Blackwood	53	3
Shrubs	<i>Coprosma quadrifida</i>	Prickly Currant-bush	68	5
	<i>Olearia argophylla</i>	Musk Daisy-bush	60	13
	<i>Rapanea howittiana</i>	Muttonwood	53	47
	<i>Pomaderris aspera</i>	Hazel Pomaderris	53	8
	<i>Acronychia oblongifolia</i>	Yellowwood	51	592
	<i>Solanum prinophyllum</i>	Forest Nightshade	40	33
	<i>Hymenanthera dentata</i>	Tree Violet	38	55
	<i>Olearia lirata</i>	Snow Daisy-bush	34	3
	<i>Rubus rosifolius</i>	Rose-leaf Bramble	30	F
	<i>Solanum nigrum</i> s.l.	Black Nightshade	30	8
	<i>Notelaea venosa</i>	Large Mock-olive	23	263
	<i>Bedfordia arborescens</i>	Blanket-leaf	23	10
	r <i>Olearia viscosa</i>	Viscid Daisy-bush	21	121
	<i>Solanum aviculare</i>	Kangaroo Apple	19	20
	<i>Pimelea axiflora</i>	Bootlace Bush	17	8
	<i>Elaeocarpus reticulatus</i>	Blue Oliveberry	7	88
Herbs	<i>Urtica incisa</i>	Scrub Nettle	70	13
	<i>Sambucus gaudichaudiana</i>	White Elderberry	68	15
	<i>Dichondra repens</i>	Kidney-weed	62	2
	<i>Stellaria flaccida</i>	Forest Starwort	53	6
	<i>Geranium homeanum</i>	Northern Cranesbill	34	394

Lifeform		Scientific Name	Common Name	% Fr	F
		<i>Rumex brownii</i>	Slender Dock	32	16
		<i>Cynoglossum latifolium</i>	Forest Hound's-tongue	32	11
		<i>Hydrocotyle sibthorpioides</i>	Shining Pennywort	23	7
		<i>Plantago debilis</i>	Shade Plantain	23	6
		<i>Solanum pseudocapsicum</i>	Madeira Winter-cherry	17	39
		<i>Senecio minimus</i>	Shrubby Fireweed	17	3
		<i>Calystegia marginata</i>	Forest Bindweed	9	F
Climbers/Vines		<i>Eustrephus latifolius</i>	Wombat Berry	98	285
		<i>Clematis glycinoides</i> var. <i>glycinoides</i>	Forest Clematis	92	51
		<i>Geitonoplesium cymosum</i>	Scrambling Lily	89	258
		<i>Smilax australis</i>	Austral Sarsaparilla	77	300
		<i>Celastrus australis</i>	Staff Climber	74	214
		<i>Marsdenia rostrata</i>	Milk-vine	62	145
		<i>Pandorea pandorana</i>	Wonga Vine	60	15
		<i>Tylophora barbata</i>	Bearded Tylophora	57	657
		<i>Morinda jasminoides</i>	Jasmine Morinda	53	F
		<i>Parsonsia brownii</i>	Twining Silkpod	17	12
Halophytes	r	<i>Marsdenia flavescens</i>	Yellow Milk-vine	13	F
		<i>Rhagodia candolleana</i> ssp. <i>candolleana</i>	Seaberry Saltbush	28	6
		<i>Myoporum insulare</i>	Common Boobialla	17	6
		<i>Tetragonia tetragonioides</i>	New Zealand Spinach	4	15
Sedges		<i>Gahnia melanocarpa</i>	Black-fruit Saw-sedge	36	416
		<i>Carex appressa</i>	Tall Sedge	23	3
		<i>Lepidosperma laterale</i>	Variable Sword-swedge	23	2
		<i>Carex longebrachiata</i>	Bergalia Tussock	13	F
Ferns		<i>Asplenium flabellifolium</i>	Necklace Fern	87	72
		<i>Pellaea falcata</i>	Sickle Fern	85	55
		<i>Pteris tremula</i>	Tender Brake	57	73
		<i>Doodia media</i> ssp. <i>australis</i>	Common Rasp-fern	38	73
		<i>Pteridium esculentum</i>	Austral Bracken	36	0.8
		<i>Lastreopsis acuminata</i>	Shiny Shield-fern	26	22
		<i>Polystichum proliferum</i>	Mother Shield-fern	26	3
		<i>Pyrrosia rupestris</i>	Rock Felt-fern	24	F
		<i>Microsorium scandens</i>	Fragrant Fern	19	F
		<i>Pteris umbrosa</i>	Jungle Brake	19	F
		<i>Microsorium pustulatum</i>	Kangaroo Fern	17	6
		<i>Dennstaedtia davallioides</i>	Lacy Ground-fern	15	F
Grasses		<i>Oplismenus hirtellus</i>	Basket-grass	77	F
		<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass	62	2
		<i>Poa</i> sp.	Tussock Grass	32	0.7
		<i>Echinopogon ovatus</i>	Common Hedgehog-grass	17	3
Weeds	*	<i>Asparagus asparagoides</i>	Bridal Creeper	47	61
	*	<i>Hedera helix</i>	Ivy	23	131
	*	<i>Sonchus oleraceus</i>	Sow Thistle	15	1