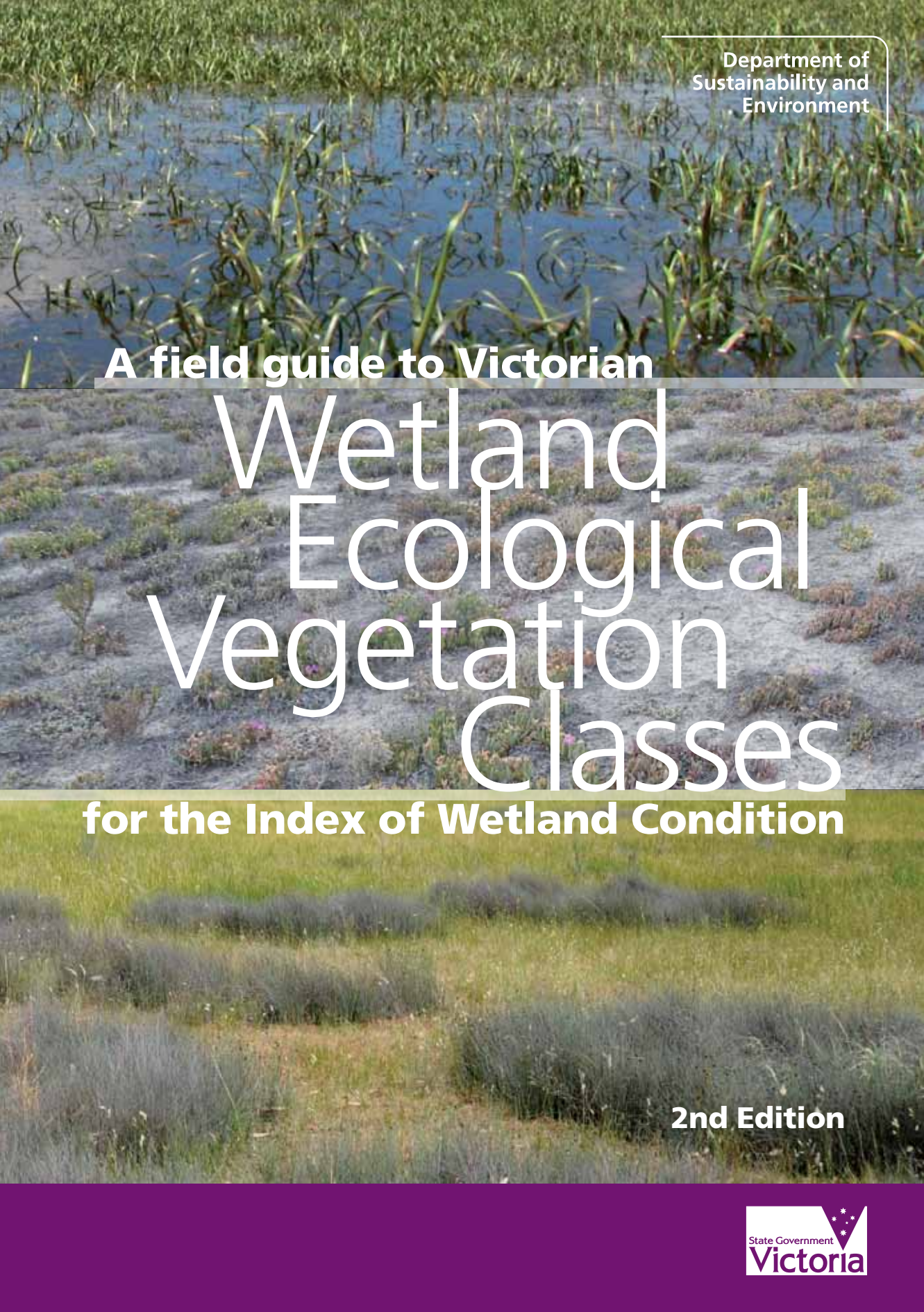

Department of Sustainability and Environment

A field guide to Victorian

Wetland Ecological Vegetation Classes

for the Index of Wetland Condition

2nd Edition

State Government Victoria

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Front cover photographs: Aquatic Herbland (wetland EVC 653) at Bryan Swamp (Glenelg Hopkins CMA), Sub-saline Depression Shrubland (wetland EVC 820) near Wentworth (Mallee CMA), Plains Grassy Wetland/Sedge-rich Wetland Complex (wetland EVC 959) near Edenhope (Damien Cook).

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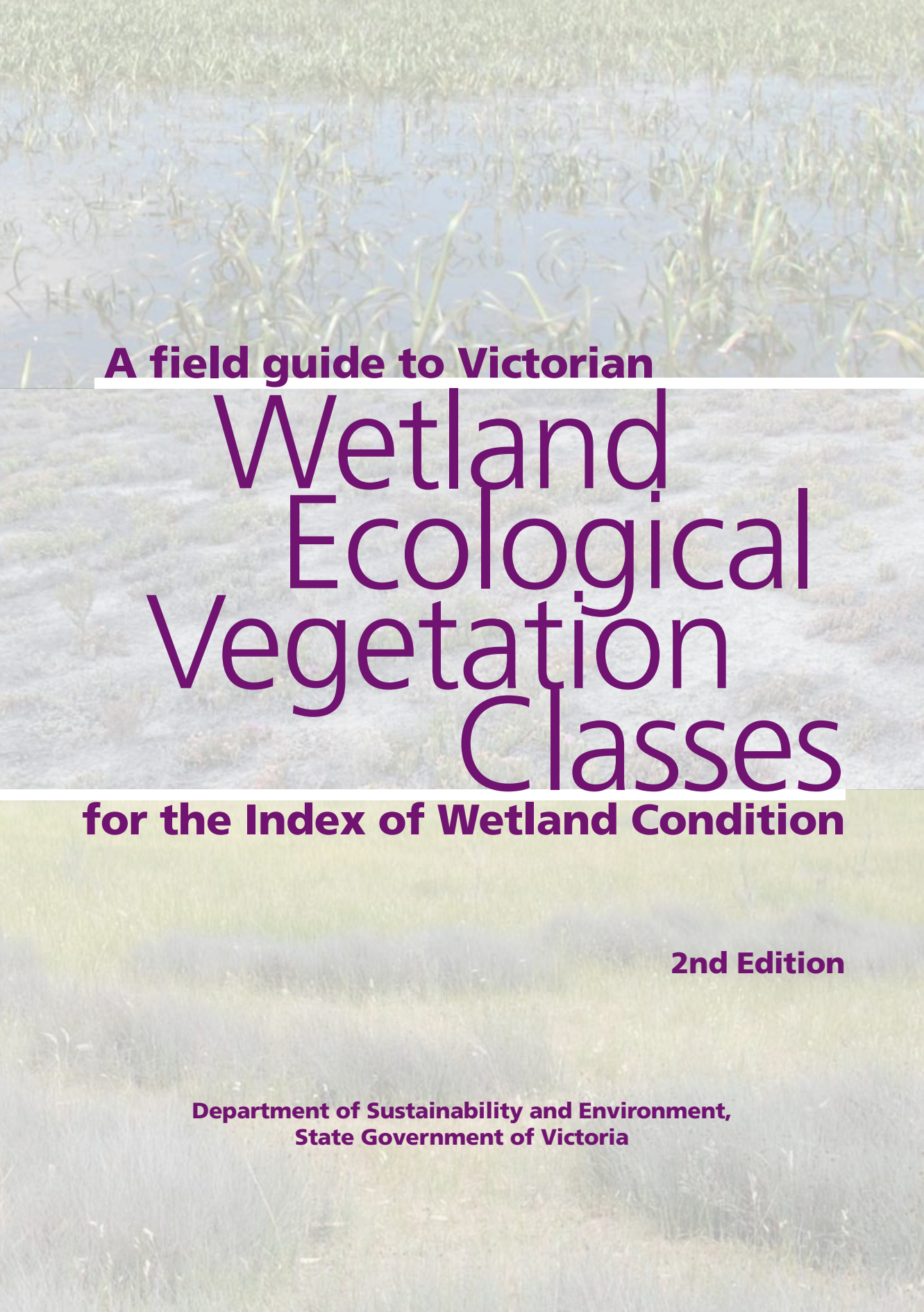

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Contents

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Design: Judy Bennett Design

Status of ecological vegetation classes

This report includes provisional ecological vegetation classes (EVCs) that have yet to be formally approved by the Department of Sustainability and Environment (DSE). Their descriptions may be subject to future change. Provisional EVCs are clearly identified in the report.

DSE is reviewing EVCs. The wetland EVCs in this report may be at a finer scale than those adopted by DSE after the review is complete.

About the guide

The guide to Victorian wetland Ecological Vegetation Classes (EVCs) will assist in the identification of wetland EVCs for a wetland vegetation or Index of Wetland Condition (IWC) assessment. The IWC is a method for assessing wetland condition in Victoria (www.dse.vic.gov.au/conservation-and-environment/index-of-wetland-condition).

There are 143 wetland EVCs included in the guide, of these 126 have photographs. Fourteen of the EVCs are provisional and currently not approved by DSE. This includes EVCs that represent the resolution of the potential components of Coastal Saltmarsh Aggregate (wetland EVC 9). A description of the defining characteristics and indicator species is included with each EVC.

This guide is an accompaniment to the report: 'The Index of Wetland Condition: Assessment of wetland vegetation, update – May 2012' (DSE 2012), which provides descriptions for all wetland EVCs, landscape profile diagrams and an outline of how to complete the wetland vegetation quality assessment. The report is available on the IWC website.

The photographs represented for each of the wetland EVCs do not depict all possible floristic or structural variants for each wetland EVC.

Catchment Management Authority regions referred to in the field guide are shown in Figure 1.

Table 1 Wetland EVCs covered in the field guide.

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Table 1 (continued)

Table 1 (continued)

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Table 1 continued overleaf >

Table 1 (continued)

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* A107–A113 are provisional wetland Ecological Vegetation Classes. Their descriptions are subject to change and they are yet to be approved by DSE. They represent resolution of the potential components of EVC #9 Coastal Saltmarsh Aggregate. These are presented in more detail in the recently completed 'Victorian Saltmarsh Study 2010' (Victorian Saltmarsh Study Group 2010). Of these, only A113 is recognised as having occurrences outside of coastal saltmarsh habitats.

A101–A102 and A104–A106, A114–A115 are provisional wetland Ecological Vegetation Classes. Their descriptions are subject to change and they are yet to be approved by DSE.

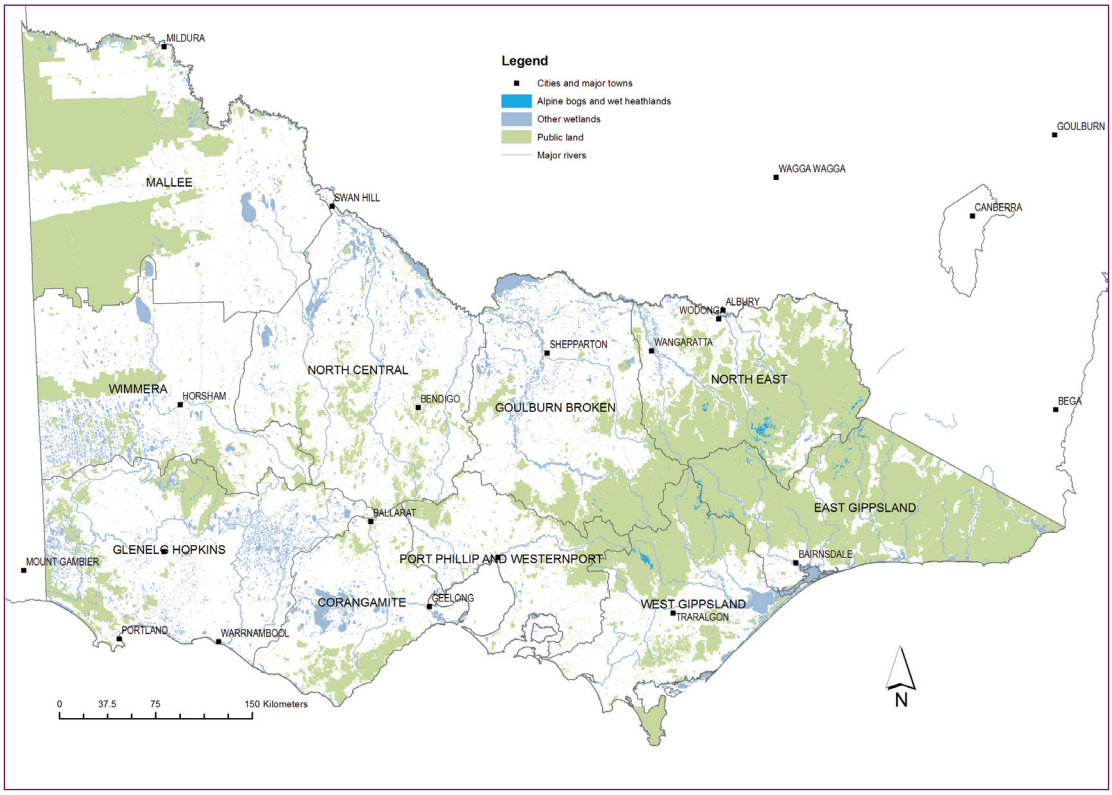

Figure 1: Victorian Catchment Management Authority regions referred to in the field guide

Further information and feedback

Additional copies of this guide can be purchased from the Victorian Government bookshop: **www.bookshop.vic.gov.au**

For further information on the guide, to provide feedback or contribute photos for the next edition, contact: Phil Papas, Department of Sustainability and Environment, Heidelberg

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Department of Sustainability and Environment (2005) 'Index of Wetland Condition: Conceptual framework and selection of measures'. Victorian Government Department of Sustainability and Environment Melbourne, November 2005.

Department of Sustainability and Environment (2012) 'Index of Wetland Condition: Assessment of wetland vegetation, update – May 2012', Department of Sustainability and Environment, East Melbourne.

Victorian Saltmarsh Study Group (2010) 'Mangroves and coastal saltmarsh of Victoria: distribution, condition, threats and management'. Institute for Sustainability and Innovation, Victoria University, Melbourne.

Descriptions and photos of wetland Ecological Vegetation Classes used in the Index of Wetland Condition

(in alphabetical order)

Alkaline Basaltic Wetland Aggregate EVC #1111

Description

Defining characteristics: Structurally and floristically diverse wetlands, with the following main component elements: Aquatic Herbland (EVC 653), Wet Verge Sedgeland (EVC 932), Plains Grassy Wetland / Aquatic Herbland Complex (EVC 955), Tall Marsh (EVC 821) and Sedge Wetland / Calcareous Wet Herbland Complex (EVC 883). Highly localised, on heavy alkaline soils of relatively recent basalt flows in the vicinity of Portland.

Indicator Species: Component species variously include *Carex appressa, Juncus procerus, Phragmites australis, Glyceria australis, Amphibromus neesii, Amphibromus sinuatus, Lachnagrostis filiformis, Eleocharis acuta, Carex gaudichaudiana, Triglochin alcockiae, Villarsia reniformis, Crassula helmsii, Lilaeopsis polyantha, Ranunculus amphitrichus, Neopaxia australasica, Rumex bidens, Stellaria angustifolia, Myriophyllum simulans, Isolepis fluitans, Asperula subsimplex, Potamogeton cheesemanii, Urtica incisa, Hydrocotyle tripartita, Hydrocotyle sibthorpioides, Lobelia beaugleholei, Senecio psilocarpus, Persicaria decipiens, Leptinella reptans* and *Senecio pinnatifolius* var. *pinnatifolius*

An example of Alkaline Basaltic Wetland Aggregate in south-western Victoria

A close up view of Alkaline Basaltic Wetland Aggregate

A close up view of the EVC in south-western Victoria

Alluvial Plains Semi-arid Grassland EVC #806

Description

Defining characteristics: Turf grassland (to herbland) of low-lying areas within relatively elevated riverine terraces. Shrubs incidental if present. Flood-promoted flora that potentially includes a wide range of opportunistic ephemeral/annual species. Localised to riverine areas in north-western Victoria.

Indicator species: *Sporobolus mitchelli, Calocephalus sonderi, Sclerochlamys brachyptera, Plantago cunninghamii, Brachyscome* spp.

An example of Alluvial Plains Semi-arid Grassland at Lake Powell in the Murray Mallee region

An example of Alluvial Plains Semi-arid Grassland at First Marsh during a prolonged dry phase near Kerang

Alluvial Plains Semi-arid Grassland at Lake Bael Bael during a prolonged dry phase near Kerang

Alluvial Plains Semi-arid Grassland at Lake Bael Bael during a prolonged dry phase near Kerang

Alpine Creekline Herbland EVC #239

Description

Defining Characteristics: Dense herbland vegetation, dominated by *Celmisia sericophylla*, occurring along heads of alpine drainage-lines. Rare, confined to Bogong High Plains.

Indicator Species: *Celmisia sericophylla*, variously with *Luzula atrata, Luzula modesta, Juncus falcatus, Carpha* spp., *Myriophyllum pedunculatum, Epacris spp., Schoenus* spp., *Poa* spp., *Oreomyrrhis* spp., *Psychrophila introloba* and *Plantago* spp. in gaps or more open stands.

.

An example of Alpine Creekline Herbland at Mt Nelse, Bogong High Plains

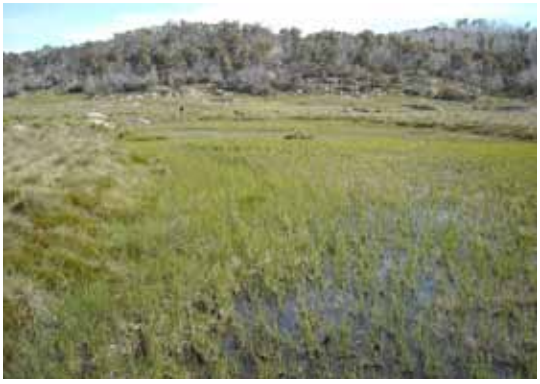
Alpine Fen EVC #171

Description

Defining characteristics: Sedgeland vegetation of high elevation wetland basins subject to cold-air ponding, often in shallow ponds occurring in association with *Sphagnum* dominated bogs. Localised within higher mountain areas.

Indicator species: *Carex gaudichaudiana, Myriophyllum pedunculatum, Isolepis crassiuscula*

An example of Alpine Fen on the Bogong High Plains, within Alpine Hummock Peatland (wetland EVC 1011)



An example of Alpine Fen in north-eastern Victoria

Alpine Heath Peatland EVC #288

Description

Defining Characteristics: Dwarf heathland of high altitude valley floors. Typically dominated by *Epacris glacialis* and growing on remnant peatland on the margins of alpine wetlands, streams and bogs. Rare, on higher mountains.

Indicator Species: *Epacris glacialis, Empodisma minus, Poa costiniana*, also variously C*arex breviculmis, Ranunculus gunnianus, Astelia alpina, Stackhousia pulvinaris, Gentianella* spp., *Oreobolus distichus.*

An example of Alpine Heath Peatland on the Bogong High Plains

Alpine Hummock Peatland EVC #1011

Description

Defining characteristics: The vegetation (at least in relatively intact sites) is characterised by elevated hummocks of *Sphagnum* moss in association with peat soils. A small range of low ericoid shrubs are typically immersed within the moss bed. Where mounds are less developed, floristic richness can be higher, potentially including a diverse range of small herbs and sedges. Localised to alpine and sub-alpine zones within higher mountains.

Indicator species: *Sphagnum* spp., *Richea continentalis, Baeckea* spp. *Epacris* spp., *Callistemon pityoides, Empodisma minus, Carex* spp., *Astelia alpina, Carpha* spp., *Lobelia surrepens, Ranunculus* spp. (notably *R. pimpinellifolius* and *R. gunnianus*), *Hypericum japonicum, Epilobium* spp.

An example of Alpine Hummock Peatland at Maisies Bog in north-eastern Victoria

An example of Alpine Hummock Peatland in north-eastern Victoria

An example of Alpine Hummock Peatland at Mt. Baw Baw

An example of Alpine Hummock Peatland on the Bogong High Plains

Alpine Short Herbland EVC #905

Description

Defining characteristics: Dwarf herbland of wet alpine soils, in sites with a short growing season. Typically found in areas of late-lying snow. Rare and localised, on higher mountains.

Indicator species: *Psychrophila introloba, Oreobolus* spp., *Oreomyrrhis* spp., *Juncus antarcticus, Plantago muelleri, Utricularia monanthos, Isolepis* spp., *Parantennaria uniceps* and *Deyeuxia affinis* less common.

A close up view of Alpine Short Herbland

Aquatic Grassy Wetland EVC #306

Description

Defining characteristics: Seasonal wetland on plains, dominated by rhizomatous to stoloniferous floating grasses, in association with mainly aquatic species. Turf grassland under drier conditions. Treeless or with scattered River Red Gum *Eucalyptus camaldulensis* present. Scattered, mainly in central southern to north-central areas.

Indicator species: Turf-forming species of *Lachnagrostis* (with affinities to *L. filiformis* var. 2) or *Amphibromus* spp. of similar growth-form (*A. sinuatus* and *A. fluitans*); with *Pseudoraphis paradoxa* very localised in East Gippsland as a component of Wet Swale Herbland. Associated species include *Crassula helmsii, Myriophyllum* spp. and *Eleocharis acuta.*

An example of Aquatic Grassy Wetland (foreground) during a dry phase at Winter Swamp, Ballarat

An example of Aquatic Grassy Wetland at Bryan Swamp in south-western Victoria

An example of Aquatic Grassy Wetland at Bryan Swamp in south-western Victoria

A close up view of Aquatic Grassy Wetland west of Casterton, south-western Victoria

Aquatic Herbland EVC #653

Description

Defining characteristics: Semi-permanent to seasonal wetland vegetation, treeless (or nearly so), dominated by herbaceous aquatic species (typically with at least rootstocks tolerant of dry periods). Widespread, but rare in mountains and north-west.

Indicator species: *Myriophyllum* spp., *Triglochin procera* s.l., variously with *Villarsia reniformis, Ludwigia peploides, Nymphoides* spp., *Ranunculus inundatus* (or related aquatic species). Often occurs in mosaic or complex with other wetland EVCs.

Close up view of Aquatic Herbland

Aquatic Herbland within treeless floodway

An example of Aquatic Herbland at Bryan Swamp, south-western Victoria

A close up view of Aquatic Herbland

Aquatic Sedgeland EVC #308

Description

Defining characteristics: Very species-poor vegetation dominated by one to several species of robust inundation-tolerant rhizomatous sedges, typically with culms septate or otherwise including large air-spaces, with vegetative growth extending into virtually permanent water. Widespread, but rare in mountains and drier north.

Indicator species: Various combinations of one or more of *Eleocharis sphacelata*, *Chorizandra australis* (or sometimes *Chorizandra cymbaria* s.l.), *Baumea articulata* and robust forms of *Baumea rubiginosa* s.l. Often occurs in association with Aquatic Herbland.

An example of Aquatic Sedgeland in the Gippsland region

An example of Aquatic Sedgeland near Warrnambool

An example of Aquatic Sedgeland at Mt Buffalo, north-eastern Victoria

An example of Aquatic Sedgeland

Billabong Wetland Aggregate EVC #334

Description

Defining Characteristics: Collective label for the various zones of vegetation associated with lagoons/billabongs on floodplains. Relevant EVCs are Floodplain Wetland Aggregate; and terrestrial EVCs Floodplain Riparian Woodland; Floodplain Riparian Woodland/ Floodplain Wetland Mosaic; Floodplain Riparian Woodland/Billabong Wetland Aggregate.

Recognisable components of Billabong Wetland Aggregate include Aquatic Herbland, Aquatic Sedgeland, Tall Marsh, Dwarf Floating Aquatic Herbland and Floodway Pond Herbland. Major river systems, principally cooler areas.

Indicator species: See descriptions of component wetland EVCs.

An example of the Billabong Wetland Aggregate

Billabong Wetland Aggregate in the Victorian Riverina region

An example of the Billabong Wetland Aggregate on Gunbower Island near Cohuna

An example of the Billabong Wetland Aggregate during a dry phase in north-eastern Victoria

Black Box Wetland

EVC #369

Description

Defining characteristics: Black Box *Eucalyptus largiflorens* with sedgy – herbaceous understorey including species indicative of wetland habitats. Seasonally swampy woodland, aquatics present within Black Box dominated vegetation. Rare, lower Loddon – Avoca area and Wimmera.

Indicator species: *E. largiflorens*, (open) *Muehlenbeckia florulenta, Amphibromus* spp. (mainly *A. nervosus*), *Lachnagrostis filiformis* var. 1, *Eleocharis acuta, Marsilea drummondii, Lobelia concolor, Ranunculus inundatus, Potamogeton tricarinatus* s.l.

An example of Black Box Wetland near Mitiamo, north-central Victoria

Black Box Wetland in north-central Victoria

An example of Black Box Wetland during a dry phase in north-central Victoria

Blocked Coastal Stream Swamp EVC #875

Description

Defining characteristics: Dense sedgeland, dominated by *Cladium procerum*, associated with blocked streams of calcareous coastal habitats. Rare in Victoria – Wilson's Promontory and south-western Victoria.

Indicator species: *Cladium procerum*, variously with *Typha domingensis* and scattered *Leptospermum lanigerum*.

Blocked Coastal Stream Swamp in south-western Victoria

An example of Swamp Scrub (wetland EVC 53) in background with Blocked Coastal Stream Swamp through middle

A close up view of Blocked Coastal Stream Swamp near Heywood, south-western Victoria

An example of Blocked Coastal Stream Swamp north of Bridgewater Lakes, south-western Victoria

Brackish Aquatic Herbland EVC #537

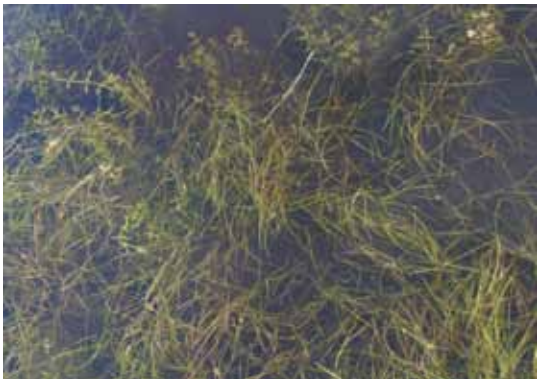
Description

Defining characteristics: Submerged (to weakly emergent) herbland, including more salt-tolerant aquatic species in semi-attached floating mats. Scattered in inland and near-coastal areas.

Indicator species: *Myriophyllum* spp. (*M. verrucosum* and *M. muelleri*), *Ruppia polycarpa, Lepilaena* spp. and *Lilaeopsis polyantha, Stoneworts* (Family Characeae), *Mimulus repens, Potamogeton pectinatus* and *Triglochin striata.*

Brackish Aquatic Herbland in south-western Victoria

Brackish Aquatic Herbland in the Wimmera region



Close up view of Brackish Aquatic Herbland

Brackish Grassland EVC #934

Description

Defining characteristics: Grassland on sub-saline heavy soils, including dominants of Plains Grassland (and a portion of associated herbaceous species) in association with herbaceous species indicative of saline soils. Sometimes occurring as a fringing community on the verges of saline lakes. Scattered in southern lowland and plains areas, including coastal sites, most communities critically endangered.

Indicator species: *Poa labillardierei* (*Poa poiformis* some coastal sites) and / or *Themeda triandra* and *Rytidosperma* spp., with e.g. *Distichlis distichophylla, Calocephalus lacteus, Selliera radicans, Sebaea* spp., *Wilsonia rotundifolia, Lobelia irrigua.*

An example of Brackish Grassland in south-western Victoria

A close up view of Brackish Grassland at Point Cook

A close up view of Brackish Grassland in south-western Victoria

Brackish Herbland EVC #538

Description

Defining characteristics: Low herbland dominated by species tolerant of mildly saline conditions and intermittent inundation. Scattered in inland and near-coastal areas, including estuarine sites.

Indicator species: Variously *Lobelia irrigua, Sebaea* spp., *Ranunculus diminutus* or *R. amphitrichus, Apium annuum, Lachnagrostis* spp., *Isolepis cernua, Schoenus nitens, Wilsonia rotundifolia, Selliera radicans, Distichlis distichophylla* and/or *Samolus repens*.

Close up view of Brackish Herbland

An example of Brackish Herbland in south-western Victoria

Brackish Herbland with Brackish Sedgeland (wetland EVC 13) in the Gippsland region

Brackish Herbland during a dry phase near Cressy

Brackish Lake Aggregate EVC #636

Description

Defining characteristics: Collective label for the various zones of vegetation associated with the floors and verges of brackish lakes. Identifiable components of the aggregate variously include Brackish Aquatic Herbland, Brackish Lake Bed Herbland, Brackish Herbland and Brackish Wetland Aggregate. Mainly drier west and north of State.

Indicator species: See descriptions of component EVCs.

Brackish Lake Aggregate during a dry phase in the Wimmera region

Brackish Lake Aggregate during a wet phase in the Wimmera region

Close up view of aquatic component of Brackish Lake Aggregate

Brackish Lake Bed Herbland EVC #539

Description

Defining characteristics: Low herbland of salt-tolerant species developing on drying lake beds. Floristics can vary seasonally and can be in temporal phase with the unvegetated unit (open water/bare soil/mud). Localized in north and west, very rare in near coastal sites (e.g. Bellarine Peninsula).

Indicator species: Variously *Cressa australis, Heliotropium curassavicum, Glycyrrhiza acanthocarpa, Mimulus repens, Chenopodium glaucum, Sporobolus* spp. (*S. mitchellii* and *S. virginicus*), *Atriplex suberecta* and *Myriophyllum verrucosum*. Scattered living veteran trees of *Eucalyptus camaldulensis* can be present around outer fringes, and dead stags may be extensive through the vegetation reflecting an altered hydrology.

Close up view of Brackish Lake Bed Herbland

An example of Brackish Lake Bed Herbland at Third Marsh during a prolonged dry phase and colonised by saltbushes near Kerang

Brackish Lignum Swamp EVC #947

Description

Defining characteristics: Wetland dominated by *Muehlenbeckia florulenta* (variously with *Eragrostis infecunda*), with a component or patches of salt-tolerant herbs (at least at low to moderate levels of salinity) and usually also with some species common to freshwater habitats. Can be very species-poor apart from introduced annuals. Sites with a higher diversity of salt-tolerant native species, at least around the drier outer verges, are generally presumed to have been somewhat saline prior to European settlement. However, species-poor character does not necessarily imply that the site is degraded or highly modified. Rare, lower rainfall plains in north and west and scattered along coastal areas.

Indicator species: *Muehlenbeckia florulenta*, variously with *Eragrostis infecunda, Samolus repens, Isolepis cernua, Triglochin striata, Chenopodium glaucum, Myriophyllum verrucosum, Selliera radicans, Mimulus repens, Distichlis distichophylla, Lobelia irrigua, Wilsonia rotundifolia, Lachnagrostis* spp. and/or *Gahnia filum*.

Brackish Lignum Swamp at Spectacle Lake, Point Cook

An example Brackish Lignum Swamp in south-western Victoria

Brackish Sedgeland EVC #13

Description

Defining characteristics: Medium to tall sedgeland, dominated by salt-tolerant sedges in association with low grassy/herbaceous ground-layer with a halophytic component. Scattered in near-coastal and western inland areas.

Indicator species: *Gahnia trifida* (less commonly *Gahnia filum*) or *Baumea juncea*; with *Bolboschoenus caldwelli* and/or *Schoenoplectus pungens* in some wetter versions (but note also EVC 656 Brackish Wetland Aggregate).

An example of Brackish Sedgeland during a dry phase at Centre Lake in the Wimmera region

Brackish Sedgeland at Tower Hill Lake in south-western Victoria

Brackish Sedgeland dominated by *Gahnia filum* near Horsham

An example of Brackish Sedgeland at White Lake in south-western Victoria

Brackish Sedgy Shrubland EVC#1114

Description

Defining characteristics: Sedgy shrubland vegetation with minor component of halophytic species, occurring on faintly brackish sandy coastal swales and flats with grey peaty sand subject to occasional shallow inundation. Rare, recorded with certainty only from far East Gippsland.

Indicator Species: *Melaleuca armillaris* with *Apodasmia brownii, Baumea juncea, Gonocarpus micranthus* and *Linum marginale*. A diverse range of species at lower covers includes *Lachnagrostis filiformis, Paquerina graminea, Centella cordifolia, Rytidosperma semiannulare, Deyeuxia densa, Drosera pygmaea, Hemarthria uncinata, Imperata cylindrica, Lobelia anceps, Samolus repens, Schoenus apogon, Schoenus nitens, Selaginella uliginosa, Senecio glomeratus* and *Viminaria juncea*.

No photo available.

Brackish Shrubland EVC #973

Description

Defining characteristic: Shrubland vegetation fringing claypans and shallow salt lakes, with dominant species tolerant of lower levels of salinity, but ground-layer with sparse grassy – herbaceous ground-layer with few if any halophytic species. Ephemerals are prevalent and indicative of seasonal water-logging. Rare, Little Desert and nearby far south-west.

Indicator species: *Melaleuca brevifolia,* variously with *Acacia farinosa, Rytidosperma* spp. (*R. geniculatum, R. setaceum, R. semiannulare*), *Austrostipa scabra, Gahnia filum, Lepidosperma viscidum, Dichelachne crinita, Hypolaena fastigiata* and *Baumea juncea, Centrolepis* spp. (*C. polygyna* and *C. strigosa*), *Daucus glochidiatus, Millotia muelleri, Pogonolepis muelleriana, Sebaea ovata* and *Wahlenbergia gracilenta* s.l.

No photo available.

Brackish Wetland Aggregate EVC #656

Description

Defining characteristics: Collective label for the various zones of sedgy-herbaceous vegetation associated with sub-saline wetlands. Components variously include wetter versions of Brackish Sedgeland, Brackish Herbland and Saline Aquatic Meadow. Mainly western and northern areas, but also scattered sites on coastal plains.

Indicator species: See descriptions of component EVCs.

A close up view of sedgeland component Brackish Wetland Aggregate

An example of Brackish Wetland Aggregate

Brackish Wetland Aggregate in foreground and Plains Saltmarsh (wetland EVC 888) in background

An example of Brackish Wetland Aggregate with Brackish Herbland (wetland EVC 538)

Calcareous Wet Herbland

EVC #591

Description

Defining characteristics: Low wetland vegetation dominated by inundation tolerant herbs. The floristics are indicative of calcareous conditions. Rare, southern lowland areas, mostly in the south-west.

Indicator species: *Hydrocotyle* spp. *(H. sibthorpioides, H. muscosa, H. pterocarpa), Lilaeopsis polyantha, Ranunculus* spp., *Isolepis fluitans, Asperula subsimplex, Villarsia* spp., *Amphibromus recurvatus* and *Goodenia humilis*. Sparse emergent *Baumea arthrophylla* and/or *Juncus procerus* are sometimes present.

Calcerous Wet Herbland fringed by Swamp Scrub (wetland EVC 53)

Cane Grass Wetland EVC #291

Description

Defining characteristics: Species-poor vegetation dominated by Southern Cane-grass *Eragrostis infecunda* occurring in association with seasonal wetlands of low rainfall plains areas, typically on extremely heavy, grey clay soils. Scattered in drier plains areas in the west and north of the State.

Indicator species: *Eragrostis infecunda,* species-poor, variously with *Eleocharis acuta, Potamogeton tricarinatus* s.l., *Lachnagrostis filiformis* var. 1.

An example of Cane Grass Wetland near Wannon in south-western Victoria

An example of Cane Grass Wetland in south-western Victoria

Cane Grass Wetland in south-western Victoria

A close up view of Cane Grass Wetland at Lake Muirhead in south-western Victoria

Cane Grass Wetland/Aquatic Herbland Complex EVC #602

Description

Defining characteristics: Wetland vegetation with open Southern Cane-grass in association with freshwater aquatic herbs. Rare, scattered localities in the west and north of the State.

Indicator species: *Eragrostis infecunda, Myriophyllum* spp., *Rumex bidens, Potamogeton tricarinatus* s.l., *Triglochin procera, Lilaeopsis polyantha*, variously including *Lachnagrostis filiformis* var. 1, *Lachnagrostis filiformis* var. 2, *Crassula helmsii, Ranunculus* spp., *Stellaria angustifolia, Amphibromus nervosus*, *Glyceria australis* and *Juncus holoschoenus.*

Cane Grass Wetland/Aquatic Herbland Complex near Bundalong in north-eastern Victoria

Cane Grass Wetland/Brackish Herbland Complex EVC #606

Description

Defining characteristics: Wetland dominated by open Southern Cane-grass in association with herbaceous species characteristic of inundation-prone brackish sites. Scattered in western areas.

Indicator species: *Eragrostis infecunda* variously with *Lilaeopsis polyantha, Triglochin striata, Samolus repens, Lobelia irrigua, Puccinellia stricta* var. *perlaxa, Mimulus repens, Sebaea albidiflora, Selliera radicans, Myriophyllum verrucosum* and *Lachnagrostis* spp., with *Sporobolus virginicus, Stellaria angustifolia* and *Calocephalus lacteus* in marginal sites.

No photo available.

Claypan Ephemeral Wetland EVC #284

Description

Defining characteristics: Herb-dominated vegetation, in shallow seasonally inundated habitat on cracking silty clays (within Alluvial Terraces Herb-rich Woodland), with a range of small herbs indicative of wetness, in particular ephemeral monocots. Localised in further west.

Indicator species: *Eucalyptus camaldulensis* (marginal), *Leptospermum scoparium* (sparse), *Goodenia humilis, Myriocephalus rhizocephalus, Brachyscome perpusilla, Centrolepis* spp., *Aphelia* spp., *Stylidium* spp., *Rytidosperma geniculatum* and *Eragrostis brownii.*

No photo available.

Coastal Ephemeral Wetland EVC #976

Description

Defining characteristics: Range of moisture requiring herbs in association with species of moister dryland grassy vegetation. Extremely rare, known only from Mornington Peninsula and possibly Phillip Island. Could also be regarded as a variant of Swampy Woodland (EVC 937)

Indicator species: *Eucalyptus ovata, Acacia melanoxylon, Leptospermum continentale, Ozothamnus ferrugineus, Acaena novae-zelandiae, Rytidosperma semiannulare, Deyeuxia quadriseta, Eragrostis brownii, Poa clelandii, Poa labillardierei, Schoenus apogon, Amphibromus archeri, Centella cordifolia, Elatine gratioloides, Gratiola peruviana, Haloragis heterophylla, Hemarthria uncinata* var. *uncinata, Isolepis cernua* var. *platycarpa, Isotoma axillaris, Juncus holoschoenus* and *Mazus pumilio.*

No photo available.

Coastal Lagoon Wetland EVC #11

Description

Defining characteristics: An aggregate EVC which includes the various zones of vegetation associated with sedge-fringed aquatic vegetation of near coastal lagoons. Components include Aquatic Sedgeland, Aquatic Herbland and Swamp Scrub. Rare, further eastern Victoria, but possibly elsewhere along coast.

Indicator species: *Baumea rubiginosa, Eleocharis sphacelata, Triglochin procera* s.l., *Melaleuca squarrosa* and *Gahnia clarkei*.

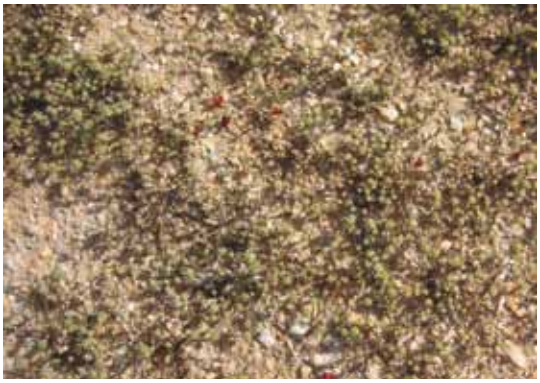
An example Coastal Lagoon Wetland in East Gippsland

Coastal Saltmarsh Aggregate EVC #9

Description

Defining characteristics: Variously low shrubby or herbaceous (to grassy or sedgy) vegetation of salinised coastal soils, in or adjacent to tidally influenced wetland. Coastal Saltmarsh Aggregate can include a number of zones of varying structure and floristics, reflecting the regimen of tidal inundation and substrate character. Refer to EVCs A107–A113 for resolution of potential components of Coastal Saltmarsh Aggregate. Scattered distribution in sheltered embayments and estuaries along Victorian coast.

Indicator species: Variously *Tecticornia* (*Sclerostegia*) *arbuscula, Sarcocornia quinqueflora, Suaeda australis* and *Samolus repens*, sometimes with *Frankenia pauciflora* and/or *Triglochin striata* locally conspicuous. *Gahnia filum, Austrostipa stipoides, Disphyma clavellatum* and *Distichlis distichophylla* can variously be locally prominent in more peripheral zones.



Close up view of Coastal Saltmarsh Aggregate at Lake Victoria, Point Lonsdale

Coastal Saltmarsh Aggregate

Coastal Saltmarsh Aggregate in Westernport, Victoria

Coastal Saltmarsh Aggregate at Murtnagurt Swamp, Barwon Heads

Dune-soak Woodland EVC #673

Description

Defining characteristics: Low diversity shrubby-sedgy woodland, lacking obligate aquatic flora, occurring on damp soils associated with dune swales, mostly at the interface between Quaternary aeolian and paludal deposits. Rare, localised in sandy areas south of the Little Desert

Indicator species: *Eucalyptus ovata, Leptospermum continentale* and *Lepidosperma longitudinale.*

No photo available.

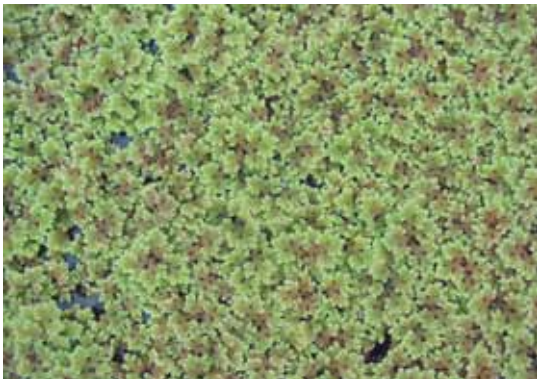
Dwarf Floating Aquatic Herbland EVC #949

Description

Defining characteristics: Surface layer of dwarf free-floating plants, usually as component of more diverse aquatic systems, but sometimes comprising the only life-form present, and potentially expanding over broad areas during inundation. Widespread in lowland areas, but rarely as sole component of wetland.

Indicator species: *Lemna* spp., *Landoltia punctata*, *Wolffia* spp., *Azolla* spp. and the liverwort *Ricciocarpus natans*.

A close up view of Dwarf Floating Aquatic Herbland



Dwarf Floating Aquatic Herbland showing *Azolla* sp.

An example of transient Dwarf Floating Aquatic Herbland within Sedgy Riverine Forest/Riverine Swamp Forest Complex (wetland EVC 817)

Ephemeral Drainage-line Grassy Wetland EVC #678

Description

Defining characteristics: Ephemeral wetlands in gilgai systems along poorly defined drainage lines within native grassland, with patchy local variation of the balance between wetland and dryland elements of flora. Localised and endangered, low rainfall volcanic plains to near west of Melbourne and possibly also Cressy and Skipton areas.

Indicator species: Relatively open *Themeda triandra* and/or *Rytidosperma duttonianum* grassland with *Eryngium vesiculosum, Helichrysum* sp. aff. *rutidolepis, Eleocharis acuta, Marsilea drummondii, Amphibromus nervosus* and *Lachnagrostis filiformis* var. 2, *Eleocharis pusilla* and *Haloragis heterophylla, Calotis* spp., *Calocephalus citreus, Eryngium ovinum, Minuria leptophylla, Walwhalleya proluta* and *Chloris truncata.*

No photo available.

Estuarine Flats Grassland EVC #914

Description

Defining characteristic: Tussock grassland of low-lying coastal sites, beyond zone of normal tidal inundation but sometimes subject to seasonal waterlogging or rarely brief intermittent inundation (e.g. at the rear of salt marshes and around drainage-line swamps behind barrier dunes).

Indicator species: *Poa poiformis* and *Ficinia nodosa*, sometimes with *Austrostipa stipoides* in marginal sites in Gippsland (but see EVC 9, Coastal Saltmarsh Aggregate); also variously *Senecio pinnatifolius, Clematis microphylla* s.l., *Distichlis distichophylla, Acaena novae-zelandiae* and/or *Apium prostratum*.

An example of Estuarine Flats Grassland

A close up view of Estuarine Flats Grassland near Yarram, West Gippsland

Estuarine Flats Grassland near Woodside in West Gippsland

A close up view of Estuarine Flats Grassland

Estuarine Reedbed
EVC #952

Description

Defining characteristic: Vegetation dominated by tall reeds (usually c. 2–3 m or more in height), in association with a sparse ground-layer of salt tolerant herbs. Distinguished from Estuarine Wetland by the vigour and total dominance of the reeds, as well as the absence or low abundance of samphires in the ground layer. Sub-saline situations of coastal estuaries (sometimes periodically blocked by sand bars), localised in scattered near coastal sites between Nelson and East Gippsland.

Indicator species: *Phragmites australis*, with associated species variously including *Samolus repens, Juncus kraussii, Triglochin striatum, Bolboschoenus caldwellii, Suaeda australis, Gahnia filum* and *Crassula helmsii*.

An example of Estuarine Reedbed in south-western Victoria

An example of Estuarine Reedbed in foreground near Yambuk, south-western Victoria

A close up view of Estuarine Reedbed near Yambuk

Estuarine Scrub EVC #953

Description

Defining characteristic: Shrubland to scrub of myrtaceous shrub species of sub-saline habitat, occuring in association with ground-layer dominated by halophytic herbs, notably on the verges of Estuarine Wetland (EVC 10), where peripheral or further upstream), or at the rear of Coastal Saltmarsh Aggregate (EVC 9). Scattered in suitable habitat along the coast, but rare in western Victoria and of restricted total extent, reduced by clearing

Indicators species: *Melaleuca ericifolia* (in eastern Victoria), with other *Melaleuca* spp. (e.g. *M. lanceolata, rarely Melaleuca gibbosa* or *M. halmaturorum*) or *Leptospermum lanigerum* in western Victoria. The major species of the ground-layer include *Samolus repens, Triglochin striatum* and *Selliera radicans*, variously with *Sarcocornia quinqueflora, Gahnia filum, Poa poiformis, Juncus kraussii, Disphyma crassifolium* and *Distichlis distichophylla*. Species such as *Isolepis nodosa, Tetragonia implexicoma, Rhagodia candolleana* and *Myoporum insulare* can occur on the drier verges, but are not characteristic of the vegetation. While the vegetation is frequently relatively species-poor, some sites can be rich in small herbs.

An example of Estuarine Scrub

An example of Estuarine Scrub at Corner Inlet

A close up view of Estuarine Scrub at Corner Inlet

Estuarine Wetland EVC #10

Description

Defining characteristic: Rushland/sedgeland vegetation, variously with component of small halophytic herbs, occurring in regularly-inundated wetlands of estuarine flats. Distinguished from Estuarine Reedbed by the smaller stature and reduced dominance of *Phragmites australis* (and greater diversity), from Coastal Saltmarsh Aggregate by the dominance of medium-sized graminoids (other than *Austrostipa stipoides* in the latter), and from Estuarine Scrub by the general absence of woody species. Scattered along the coast in estuarine situations, also at rear of saltmarshes where there is seepage, but most extensive in association with larger estuarine floodplains.

Indicator species: *Juncus kraussii*, sometimes with *Bolboschoenus caldwellii, Schoenoplectus pungens* and/or (stunted and sub-dominant) *Phragmites australis*; with *Samolus repens, Ranunculus amphitrichus, Distichlis distichophylla, Isolepis cernua, Selliera radicans, Apium prostratum, Triglochin striata, Leptinella* spp., *Mimulus repens, Sarcocornia quinqueflora* and/or *Suaeda australis*. Woody species are generally absent, but scattered stunted shrubs (variously including *Leptospermum lanigerum, Melaleuca ericifolia* or *Myoporum insulare*) can occasionally be present on drier margins.

Estuarine Wetland on Quail Island in Western Port

An example of Estuarine Wetland near Yambuk, south-western Victoria

Estuarine Wetland near Yambuk

An example of Estuarine Wetland in south-western Victoria

Fern Swamp EVC #721

Description

Defining characteristics: Ferny (to sedgy-ferny) swampy drainage line vegetation of high-rainfall areas (mostly occurring along drainage systems which support Riparian Thicket or Cool Temperate Rainforest in more free-draining areas). Woody species are generally confined to sparse emergent tall shrubs/small trees, but sparse emergent *Eucalyptus ovata* are sometimes present. Rare, higher rainfall areas (Central Highlands, South Gippsland, Otways).

Indicator species: Sparse *Melaleuca squarrosa, Leptospermum lanigerum/Leptospermum grandifolium, Atherosperma moschatum* and/or *Acacia melanoxylon*; variously with *Todea barbara, Blechnum nudum, Blechnum minus, Blechnum wattsii, Dicksonia antarctica, Gleichenia microphylla, Carex appressa, Isolepis inundata, Persicaria hydropiper, Parsonsia brownii* and *Coprosma quadrifida*. On the drier edges, conspicuous species variously include *Tetrarrhena juncea, Austrocynoglossum latifolium, Lepidosperma elatius, Cyathea australis, Hydrocotyle hirta, Histiopteris incisa* and *Stellaria flaccida*. *Astelia australiana* can be an extremely localised component species (near Powelltown).

An example of Fern Swamp near Mirboo North

A close up view of Fern Swamp in the Otways, south-western Victoria

Floodplain Grassy Wetland EVC #809

Description

Defining characteristics: 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 River Red Gum *Eucalyptus camaldulensis*. Restricted, Murray River floodplain, primarily within Barmah Forest.

Indicator species: *Pseudoraphis spinescens* and/or sometimes *Amphibromus fluitans* or *Cynodon dactylon* var. *pulchellus*, with associated species variously including *Azolla filiculoides, Myriophyllum crispatum, Eleocharis acuta, Persicaria prostrata, Lachnagrostis filiformis, Ludwigia peploides, Nymphoides crenata, Stellaria caespitosa, Juncus ingens* and *Centipeda* spp. (and in drier north-western Victoria *Sporobolus mitchellii* in association with *P. spinescens*).

Floodplain Grassy Wetland during a dry phase at Barmah Forest

Floodplain Grassy Wetland during a wet phase at Barmah Forest

Floodplain Grassy Wetland with Aquatic Herbland (wetland EVC 653) at Barmah Forest

Floodplain Riparian Woodland EVC #56

Description

Defining characteristics: Eucalypt woodland of well developed floodplains of less arid areas, often including treeless wetland areas (referable to Floodplain Wetland Aggregate). At maximum development, Floodplain Riparian Woodland represents the vegetation of a mosaic of terraces, active floodways and former channels and consequently a number of communities indicative of a range of hydrological conditions. Parts of the floodplain which typically lack obligate wetland species (e.g. levees which are only intermittently and briefly subject to flooding if at all) may support vegetation referable to Riparian Woodland). This internal variation within the EVC has led to the additional labels Floodplain Riparian Woodland/Billabong Wetland Mosaic and Floodplain Riparian Woodland/ Floodplain Wetland Mosaic. It is rare that the more distinctive wetland components within Floodplain Riparian Woodland are at a sufficient scale to allow comprehensive separation. In functional terms all three potential labels are usually equivalent, though in instances it may be possible to distinguish the larger areas of better developed wetland within the relevant area of floodplain. Floodplains of less arid southern and eastern parts.

Indicator species: *Eucalyptus camaldulensis, Eucalyptus viminalis* (sometimes with *Eucalyptus ovata* and/or *Eucalyptus radiata*), *Acacia mearnsii, Acacia dealbata, Acacia melanoxylon. Poa labillardierei, Carex* spp.

An example of Floodplain Riparian Woodland in the Barmah Forest

Floodplain Riparian Woodland in the Goulburn-Broken region

Floodplain Thicket EVC #280

Description

Defining characteristics: Dense shrubby vegetation of braided channel systems of poorly-drained broad alluvial flats associated with floodplain habitats. Characterised by the diversity of *Melaleuca* and *Leptospermum* spp. present. Floodplain Thicket has floristic affinities with forms of Riparian Scrub and Swamp Scrub. As well as indicator species (listed), aquatics are present in channels. Localised to the vicinity of the Grampians.

Indicator species: Mixtures of *Melaleuca* spp. (*M. squarrosa, M. squamea, M. gibbosa, M. decussata*) and *Leptospermum* spp. (*L. continentale, L. scoparium, L. obovatum, L. lanigerum*), variously with *Hakea nodosa, Acacia retinodes, Acacia verticillata, Callistemon rugosulus, Gahnia sieberiana, Baumea tetragona, Empodisma minus* and aquatics in channels.

No photo available.

Floodplain Wetland Aggregate EVC #172

Description

Defining characteristics: Collective label for the various zones of vegetation associated with wetlands of riparian floodplains, best developed in association with Floodplain Riparian Woodland. Potentially includes mosaics of scrub/shrubland, reedbed, sedgeland, rushland, grassland and/or herbland zones. The following components are variously recognisable within Floodplain Wetland: Aquatic Herbland, Aquatic Sedgeland, Tall Marsh, Swamp Scrub, Wet Verge Sedgeland, Floodway Pond Herbland and Dwarf Floating Aquatic Herbland. Billabong Wetland is also an aggregate EVC including many of these components. Floodplains of major streams, principally in less arid areas.

Indicator species: See descriptions of component EVCs.

An example of the Floodplain Wetland Aggregate in north-eastern Victoria

Floodplain Wetland Aggregate in the Victorian Riverina region

Floodplain Wetland Aggregate in the Victorian Riverina region

Floodway Pond Herbland EVC #810

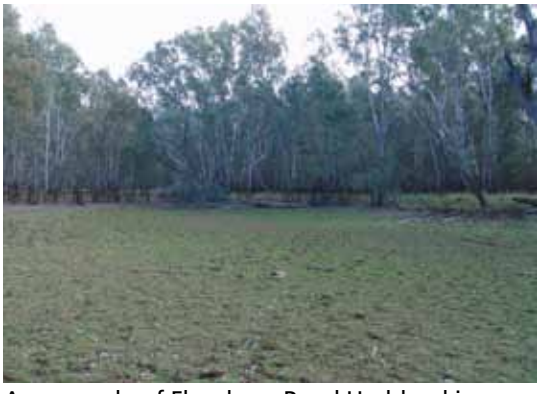
Description

Defining characteristics: Low herbland on the drying mud of floors of ponds on floodway systems (mainly riverine floodplains). The floristics (and diversity) can be quite variable (both spatially and temporally), according to the traits of the relevant individual pond. The floristics also vary in temporal cycles with the unvegetated unit (EVC 990) and probably between seasons at some locations. Widely dispersed along major riparian floodplains, especially of Murray River and tributaries.

Indicator species: *Centipeda* spp., *Stellaria caespitosa, Dysphania glomulifera* ssp. *glomulifera, Fimbristylis* spp., *Polygonum plebeium, Glinus* spp., *Persicaria* spp., *Alternanthera* spp., *Lachnagrostis filiformis* var. 1; sometimes with narrow fringes of *Pseudoraphis spinescens, Eleocharis acuta* and/or *Carex gaudichaudiana*. Semi-arid versions can include an increased component of species shared with the lacustrine habitat (notably *Glycyrrhiza acanthocarpa, Heliotropium* spp. and *Glossostigma elatinoides*).

An example of Floodway Pond Herbland at Barmah Forest

Floodway Pond Herbland at Barmah Forest



An example of Floodway Pond Herbland in north-eastern Victoria

An example of Floodway Pond Herbland in north-eastern Victoria

Floodway Pond Herbland/Riverine Swamp Forest Complex EVC #945

Description

Defining characteristics: Ground-layer dominated by herbaceous species largely shared with floodway ponds (Floodway Pond Herbland/Aquatic Herbland), or virtually absent (due to thick accumulations of forest litter or persistence of black water, or sometimes excluded by dense thickets of young River Red-gum *Eucalyptus camaldulensis* regeneration). The abundance of annual species can be highly variable between seasons (and equivalent seasons in different years). Dispersed on floodplains of Murray River and major tributaries, also some lake verges in the Wimmera.

Indicator species:

Murray Mallee – *Eucalyptus camaldulensis with Lachnagrostis filiformis* var. 1 and *Centipeda cunninghamii, Alternanthera* spp. and *Persicaria* spp. – especially *P. prostrata* (sparse *Eleocharis acuta* or *Pseudoraphis spinescens*; variously *Gnaphalium polycaulon, Cynodon dactylon* var. *pulchellus*, *Centipeda minima* s.l. and *Eclipta platyglossa*).

Mid-Murray (e.g. Barmah) – *Eucalyptus camaldulensis* with *Lachnagrostis filiformis* var. 1, *Lachnagrostis filiformis* var. 2, *Stellaria caespitosa, Centipeda* spp., especially *C. cunninghamii, Alternanthera denticulata* s.s., *Persicaria* spp. (*P. prostrata, P. decipiens, P. hydropiper*), *Myriophyllum crispatum, Eleocharis acuta* (sometimes with a component of *Juncus ingens, Cyperus gunnii* or *Typha* spp.).

An example of Floodway Pond Herbland/Riverine Swamp Forest Complex during a wet phase

Forest Bog EVC #723

Description

Defining characteristics: Wetland comprising an open, frequently pedestalled shrubland with open clumps of large graminoids (notably restiads), and with the lower strata dominated by semi-aquatic herbs or *Sphagnum* moss. Very rare, localised variants occurring within forest communities of South Gippsland and the south-west of the State.

Indicator species:

South Gippsland – *Melaleuca squarrosa, Baloskion tetraphyllum*, *Sphagnum* spp., *Isolepis fluitans, with Goodenia humilis, Amphibromus recurvatus, Myriophyllum simulans, Carex appressa*, *Eleocharis acuta* and *Triglochin procera* s.l..

South-west Victoria – *Melaleuca squarrosa, Baloskion tetraphyllum, Juncus procerus* and *Lepidosperma longitudinale*, with *Villarsia exaltata*, *Myriophyllum simulans*, *Isolepis fluitans* and *Baumea tetragona.*

An example of Forest Bog near Heywood, south-western Victoria

An example of Forest Bog near Heywood, south-western Victoria

Forest Bog in mid background near Heywood

Forest Creekline Sedge Swamp EVC #728

Description

Defining characteristics: Sedge-dominated wetlands of drainage line terraces within moist to wet forest areas. Very restricted occurrences in Southern Victoria, mainly in highlands.

Indicator species: *Carex appressa, Carex fascicularis, Cyperus lucidus* and *Phragmites australis*, with herbs such as *Epilobium pallidiflorum, Gratiola* spp., *Lythrum salicaria,* and other associated species variously including *Acacia melanoxylon, Kunzea ericoides* s.l., *Rubus parviflorus, Stellaria flaccida, Gleichenia microphylla, Hypolepis rugosula, Blechnum minus, Juncus gregiflorus* and *Persicaria decipiens. Lepidosperma elatius* can be dominant on the drier verges.

An example of Forest Creekline Sedge Swamp on the Mornington Peninsula

A close up view of Forest Creekline Sedge Swamp on the Mornington Peninsula

Description

Defining characteristics: Collective label for the various zones of vegetation associated with the floors and verges of freshwater lakes. Central deeper areas can support Aquatic Herbland, Submerged Aquatic Herbland or open water (and bare earth or Lake Bed Herbland when dry). A range of communities can occur on the fringes (see landscape profile key). Variants of Tall Marsh (e.g. Reed Swamp) are often present in more sheltered verges. Scattered, mainly western areas.

Indicator species: See descriptions of component EVCs.

Freshwater Lake Aggregate fringed by Intermittent Swampy Woodland (wetland EVC 813) with Lignum Swampy Woodland (wetland EVC 823) in foreground

An example of Freshwater Lake Aggregate in the Wimmera Region

Freshwater Lignum – Cane Grass Swamp EVC #954

Description

Defining characteristics: Open shrubland to grassy shrubland of *Muehlenbeckia florulenta* and *Eragrostis infecunda* dominated wetland, usually very species-poor in central deeper areas, but potentially diverse and herb-rich on the outer fringes. Scattered on drier plains of the north and west of the State.

Indicator species: *Muehlenbeckia florulenta, Eragrostis infecunda, Eleocharis acuta, Marsilea drummondii* and *Lachnagrostis filiformis* var. 1, *Potamogeton tricarinatus* s.l., *Rumex* spp. Additional species from the richer outer verges include *Rytidosperma duttonianum, Amphibromus nervosus, Carex tereticaulis, Centipeda cunninghamii, Eryngium vesiculosum, Eclipta platyglossa, Asperula conferta, Goodenia heteromera, Haloragis aspera, Juncus flavidus, Lobelia concolor, Teucrium racemosum* s.l., *Senecio* spp.

No photo available.

Freshwater Lignum Shrubland EVC #657

Description

Defining characteristics: Open shrubland on fringes of wetlands (typically shallow lakes) on basalt, potentially in intermittently damp sites but above normal inundation levels and lacking obligate wetland flora. Highly restricted, scattered remnants in lower-rainfall areas of the western volcanic plain.

Indicator species: *Muehlenbeckia florulenta,* with associated species including *Rytidosperma duttonianum, Poa labillardierei, Haloragis aspera, Epilobium billardierianum, Juncus flavidus, Oxalis exilis* and *Rumex brownii.*

A close up view of Freshwater Lignum Shrubland

En example of Freshwater Lignum Shrubland in the Glenelg-Hopkins region

Gahnia Sedgeland EVC #968

Description

Defining characteristics: Species-poor, tall and usually dense sedgeland vegetation of near-coastal soaks. Rare, south-west Victoria and Gippsland.

Indicator species: *Gahnia trifida* and/or *Gahnia clarkei*, variously with *Schoenus carsei*, *Baumea juncea* and robust forms of *Triglochin striata*.

An example of Gahnia Sedgeland in south-western Victoria

A close up view of Gahnia Sedgeland

Granite Rock-pool Wetland EVC #1112

Description

Defining characteristics: Herbland of seasonal ponds on granite exposures, generally dominated by annual species. Extremely restricted extent, in scattered locations on outcropping granite in northern Victoria.

Indicator species: Variously including *Myriophyllum striatum, Myriophyllum porcatum, Isoetes muelleri, Glossostigma cleistanthum, Myriocephalus rhizocephalus, Crassula closiana, Limosella australis, Montia fontana, Isolepis* spp., *Aphelia gracilis, Lythrum hyssopifolium* and *Callitriche umbonata*, largest and deepest examples with *Eleocharis acuta* and *Amphibromus nervosus; Crassula decumbens* on margins.

A close up view of Granite Rock-pool Wetland at Mt Alexander, north-central Victoria

A close up view of Granite Rock-pool Wetland at Mt Alexander, north-central Victoria

Grassy Riverine Forest EVC #106

Description

Defining characteristics: Open eucalypt forest (to woodland) with grassy understorey, dominated by species indicative of at least occasional flooding (notably *Paspalidium jubiflorum*), but also tolerant of sustained dry periods. Murray River system downstream from Hume Weir.

Indicator species: *Eucalyptus camaldulensis* with *Paspalidium jubiflorum* dominant in the ground-layer, associated species include *Centipeda cunninghamii, Brachyscome basaltica* var. *gracilis, Wahlenbergia fluminalis, Chamaesyce drummondii, Senecio quadridentatus, Rumex brownii* and *Cynodon dactylon* var. *pulchellus*; with *Eleocharis acuta* relatively minor if present.

An example of Grassy Riverine Forest in the Barmah Forest

An example of Grassy Riverine Forest in the Barmah Forest

An example of Grassy Riverine Forest in the Barmah Forest

Grassy Riverine Forest/Floodway Pond Herbland Complex EVC #811

Description

Defining characteristics: Eucalypt forest or woodland of flood-prone areas, where herbaceous species characteristic of drying mud within wetlands (Floodway Pond Herbland or in part Lake Bed Herbland) are conspicuous in association or fine-scale mosaic with *Paspalidium jubiflorum* and other species characteristic of Grassy Riverine Forest. Restricted extent, Murray River system mainly in far north-west, but upstream at least as far as Barmah Forest.

Indicator species: *Eucalyptus camaldulenis*, with *Paspalidium jubiflorum conspicuous* in association or mosaic with *Persicaria* spp. (in particular *P. decipiens*), *Centipeda cunninghamii* and/or *Glycyrrhiza acanthocarpa*. Other conspicuous species variously include *Senecio* spp., *Stemmodia florulenta, Eclipta platyglossa, Chamaesyce drummondii, Lachnagrostis filiformis, Alternanthera denticulata* s.l., *Cynodon dactylon* var. *pulchellus, Euchiton sphaericus*, *Poa fordeana* and *Cardamine moirensis.*

An example of Grassy Riverine Forest/Floodway Pond Herbland Complex during a prolonged dry phase near Robinvale

An example of the EVC during a prolonged dry phase and with Eucalypt invasion near Robinvale

Grassy Riverine Forest/Riverine Swamp Forest Complex EVC #812

Description

Defining characteristics: Eucalypt forest of flood-prone areas, where the understorey dominants (e.g. *Eleocharis acuta* and/or *Pseudoraphis spinescens*) of Riverine Swamp Forest are conspicuous in association or fine-scale mosaic with the larger tussock species (principally *Paspalidium jubiflorum*) characteristic of Grassy Riverine Forest. Murray River system, very restricted outside of Barmah Forest.

Indicator species: *Eucalyptus camaldulensis,* with *Paspalidium jubiflorum*, in association or mosaic with *Eleocharis acuta* and/or *Pseudoraphis spinescens*. Other conspicuous species variously include *Persicaria* spp. (in particular *P. prostrata*), *Cynodon dactylon* var. *pulchellus, Centipeda cunninghamii, Eclipta platyglossa, Cardamine moirensis, Alternanthera denticulata* s.l., *Lachnagrostis filiformis, Centipeda minima* s.l. and *Wahlenbergia fluminalis*.

Grassy Riverine Forest/Riverine Swamp Forest Complex at Gunbower Island State Forest

Grassy Riverine Forest/Riverine Swamp Forest Complex including components of Riverine Swamp Forest (wetland EVC 814) at Barmah Forest

An example of Grassy Riverine Forest/Riverine Swamp Forest Complex at Gunbower Island State Forest

Grassy Riverine Forest/Riverine Swamp Forest Complex at Gunbower Island State Forest

Grey Clay Drainage-line Aggregate EVC #124

Description

Defining characteristics: Collective label for the various zones of vegetation associated with the inundation-prone habitat of slightly mineralised drainage lines in more elevated parts of the basalt plains. The EVC is rare and localised, identified from very few locations, and includes habitat of the extremely localised *Carex tasmanica*. The vegetation of associated grassy terraces, subject to occasional inundation, has affinities with Creekline Tussock Grassland. The components of Brackish Herbland and Brackish Aquatic Herbland are also variously recognisable within the vegetation aggregate. Rare, western Volcanic Plains.

Indicator species: Various associations of *Carex tasmanica, Lachnagrostis adamsonii, Isolepis cernua, Ranunculus diminutis, Lobelia irrigua, Eleocharis acuta, Distichlis distichophylla, Juncus kraussii, Apium* spp., *Poa labillardierei, Calocephalus lacteus, Samolus repens* and forms of *Asperula conferta.*

An example of the Grey Clay Drainage-line Aggregate at Curly Sedge Creek , Craigieburn

Hypersaline Inland Saltmarsh Aggregate EVC #708

Description

Defining characteristics: Collective label for the various zones of vegetation associated with the floors and verges of hypersaline lakes. Typically comprising salt pan areas (sometimes occupied by aquatic halophytic monocots during wet phases), fringed by a mono-specific (or nearly so) low shrubland of stunted succulent chenopods. Drier western and north-western Victoria.

Indicator species: *Tecticornia* (formerly *Halosarcia*) spp., *Lepilaena/Ruppia* spp.

An example of Hypersaline Inland Saltmarsh Aggregate in the Wimmera region

An example of Hypersaline Inland Saltmarsh Aggregate with Samphire Shrubland (wetland EVC 101)

Hypersaline Inland Saltmarsh Aggregate including Unvegetated (wetland EVC 990) in foreground and Salt Paperbark Woodland (wetland EVC 676) in background

Hypersaline Inland Saltmarsh Aggregate including Unvegetated (wetland EVC 990) and Samphire Shrubland (wetland EVC 101)

Intermittent Swampy Woodland EVC #813

Description

Defining characteristics: Eucalypt (– Acacia) woodland with (variously shrubby) rhizomatous sedgy – turf grass understorey, at best development dominated by flood-stimulated species in association with flora tolerant of inundation. The floristics are variable and often appear modified as a consequence of disturbance. Riverine floodplains of north-west and lake verges of Wimmera and southern Mallee.

Indicator species: *Eucalyptus camaldulensis* with *Acacia stenophylla* (+/- *Eucalyptus largiflorens* and relatively open *Muehlenbeckia florulenta*). Major species include *Sporobolus mitchellii, Cyperus gymnocaulos, Cressa australis, Haloragis aspera, Centipeda cunninghamii, Sphaeromorphaea australis, Stemodia florulenta, Lachnagrostis filiformis* var. 1, *Wahlenbergia fluminalis* and *Calocephalus sonderi*, with *Paspalidium jubiflorum* typically a very minor species if present. In an extremely localised variant of flood-prone sandy terraces connected to the river or major floodway creeks, *Eragrostis* spp. and *Cynodon dactylon* var. *pulchellus* can be locally dominant – this variant is considered transitional towards Riverine Swamp Forest.

An example of Intermittent Swampy Woodland at First Reedy Swamp during a dry phase near Kerang

Intermittent Swampy Woodland at Kerang Weir during a prolonged dry phase

Intermittent Swampy Woodland/Riverine Grassy Woodland Complex EVC #822

Description

Defining characteristics: Eucalypt (– Acacia) woodland with (variously shrubby) rhizomatous sedgy – turf grass understorey, including mixtures of flood stimulated species in association with species characteristic of drier riverine woodlands. Rare, riverine floodplains of further north-west.

Indicator species: *Eucalyptus camaldulensis* (*+/- Eucalyptus largiflorens*) with S*porobolus mitchellii, Cyperus gymnocaulos* and species including *Rytidosperma* spp., *Lobelia concolor, Wahlenbergia fluminalis, Brachyscome basaltica, Brachyscome dentata, Vittadinia* spp. and *Cymbonotus lawsonianus*.

An example of Intermittent Swampy Woodland/ Riverine Grassy Woodland Complex in the Mallee region

Intermittent Swampy Woodland/Riverine Grassy Woodland Complex

An example of Intermittent Swampy Woodland/ Riverine Grassy Woodland Complex in the Mallee region

Lake Bed Herbland EVC #107

Description

Defining characteristics: Herbland dominated by species adapted to drying mud within lake beds. Some evade periods of prolonged inundation as seed, others as dormant tuberous rootstocks. Less saline lakes of north-western areas.

Indicator species: Variously including *Glycyrrhiza acanthocarpa, Malva australasica* s.l., *Glossostigma* spp., *Solanum simile, Chenopodium pumilio*; also localised species including *Mukia micrantha, Nicotiana goodspeedii* and *Cullen* spp.

Lake Bed Herbland during a prolonged dry phase at Lake Brimin. This example would currently be best interpreted as Unknown/ Unclassified (wetland EVC 999)

Lake Bed Herbland during a prolonged dry phase at Lake Bael Bael near Kerang

Lake Bed Herbland during a prolonged dry phase at Lake Hindmarsh. This example would currently be best interpreted as Unknown/ Unclassified (wetland EVC 999)

Lake Bed Herbland during a prolonged dry phase at Lake Agnes. This example would currently be best interpreted as Unknown/ Unclassified (wetland EVC 999)

Lignum Shrubland EVC #808

Description

Defining characteristics: Relatively open shrubland of species of twiggy growth-form. The ground-layer is typically herbaceous or a turf grassland, rich in annual/ephemeral herbs and small chenopods. North-western areas of Victoria, mainly riverine.

An example of Lignum Shrubland

An example of Lignum Shrubland in the Mallee region

Indicator species: *Muehlenbeckia florulenta* and/or *Chenopodium nitrariaceum* (sometimes *Eragrostis australasica*) with diverse ground-layer of small chenopods and annual herbs in far north-west, more grassy-herbaceous in character in the southern Mallee. Associated species as follows:

- ***Riverine lignum shrubland:*** *Sclerochlamys brachyptera, Plantago cunninghamii, Goodenia* spp., *Bulbine semibarbata, Brachyscome lineariloba, Brachyscome ciliaris, Isoetopsis graminifolia, Rhodanthe corymbiflora, Senecio glossanthus, Tetragonia eremaea* s.l., *Atriplex leptocarpa, Calotis hispidula, Calocephalus sonderi* and *Sporobolus mitchellii.*
- ***Tall cane grass lignum shrubland:*** Further north-west: *Eragrostis australasica, Lachnagrostis filiformis* var. 1, *Asperula gemella, Chenopodium nitrariaceum, Eleocharis pallens* and *Senecio runcinifolius.*
- ***Birchip (Chirrup Swamp):*** *Eragrostis australasica, Amphibromus nervosus, Senecio runcinifolius, Lachnagrostis filiformis* var. 1 and *Epilobium billardierianum*.

Lignum Swamp EVC #104

Description

Defining characteristics: A relatively heterogenous group of species-poor wetlands dominated by robust and often dense lignum. Scattered in lower rainfall areas of north and west, including rain-shadow areas on basalt.

Indicator species: *Muehlenbeckia florulenta*, with species variously including *Eleocharis acuta, Marsilea drummondii, Eragrostis infecunda, Lachnagrostis filiformis* var. 1, *Senecio runcinifolius, Senecio glossanthus, Rytidosperma duttonianum, Asperula gemella* and *Scleroblitum atriplicinum.*

An example of Lignum Shrubland during prolonged dry conditions

Lignum Swamp in the Kerang region

An example of the wetland EVC at Lignum Swamp on the Moolort Plains

Lignum Swampy Woodland EVC #823

Description

Defining characteristics: Tall, mostly dense shrub layer, dominated by Tangled Lignum, in association with a eucalypt/acacia low woodland. The ground-layer includes a component of obligate wetland flora that is able to persist (even if dormant) over dry periods. Lower rainfall northern and western areas.

Indicator species: *Muehlenbeckia florulenta*, with *Eucalyptus largiflorens, Acacia stenophylla* and sometimes stunted *Eucalyptus camaldulensis*.

Lignum Swampy Woodland near Kerang

Lignum Swampy Woodland in north-western Victoria

An example of Lignum Swampy Woodland during a prolonged dry phase near Natimuk

An example of Lignum Swampy Woodland during a prolonged dry phase at First Reedy Lake near Kerang

Mangrove Shrubland EVC #140

Description

Defining characteristics: Extremely species-poor shrubland vegetation of inter-tidal zone, dominated by mangroves. Sheltered embayments and tidal creeks east from Lake Connewarre to the eastern side of Nooramunga Marine Coastal Park, with most extensive development within Corner Inlet and Western Port.

Indicator species: Characteristically occurs as mono-specific stands of *Avicennia marina*. In some stands, species from adjacent Coastal Saltmarsh Aggregate or Sea-grass Meadow can also be present.

An example of Mangrove Shrubland in Western Port

An example of Mangrove Shrubland

Montane Bog EVC #966

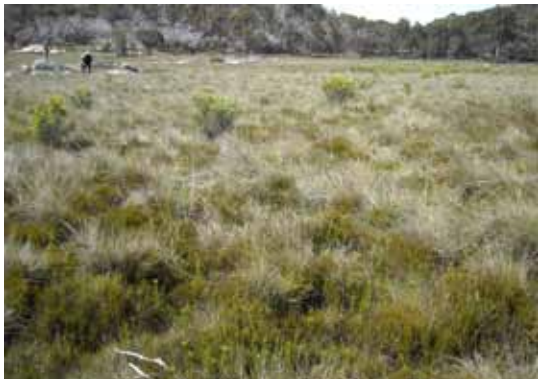
Description

Defining characteristics: Low heathy shrubland with sedge and moss components in boggy montane to sub-montane valley habitats. Can be fringed by or include sparse eucalypts, variously *E. pauciflora, E. stellulata, E. dalrympleana, E. rubida* and *E. delegatensis.* Rare, Central Highlands and East Gippsland.

Indicator species:

East Gippsland – *Baeckea utilis* s.l. and/or *Leptospermum myrtifolium* with *Epacris microphylla* s.l., *Epacris breviflora* and *Hakea microcarpa*. The ground layer includes a diverse range of sedges, grasses, forbs and ferns. Species include *Sphagnum* spp., *Schoenus apogon, Empodisma minus, Baloskion australe, Baumea gunnii, Carex appressa, Isolepis subtilissima, Festuca asperula, Poa costiniana, Leptinella filicula, Asperula conferta and Blechnum penna-marina, Hypericum japonicum, Myriophyllum pedunculatum, Eleocharis gracilis, Lobelia surrepens* and *Stylidium montanum*.

Central Highlands – *Baeckea utilis, Epacris* spp. (notably *E. paludosa*), *Sphagnum* spp. and *Empodisma minus*, with associated species including *Richea victoriana, Oxalis magellanica, Wittsteinia vaccinacea* and *Blechnum penna-marina*. *Nothofagus cunninghamii* and/or *Leptospermum grandifolium* can be present on the verges or scattered through the vegetation.



An example of Montane Bog in the Victorian alps

An example of Montane Bog north-west of the Mt. Baw Baw plateau

Montane Riparian Thicket EVC #41

Description

Defining Characteristics: Closed shrubland vegetation of low-gradient drainage lines and sheltered soaks in gully-heads at montane to sub-alpine elevations, with a sparse but potentially diverse ground-layer including a range of species tolerant of shading and water-logging. Restricted to small areas of suitable habitat on higher mountain ranges.

Indicator Species: *Leptospermum grandifolium* (sometimes with stunted *Nothofagus cunninghamii* in highest rainfall areas), *Carex appressa, Carex alsophila, Isolepis subtilissima, Blechnum nudum, Blechnum minus, Blechnum penna-marina, Olearia phlogopappa, Tasmannia lanceolata, Gaultheria appressa, Chiloglottis* spp., *Leptinella filicula, Mentha laxiflora, Dianella tasmanica, Polystichum proliferum.*

Montane Riparian Thicket in the Goulburn Broken region

An example of Montane Riparian Thicket

Montane Riparian Woodland EVC #40

Description

Defining Characteristics: Low open woodland on peat-rich soils of stream flats at montane elevations, with ground layer comprising a dense sward of grasses, herbs and sedges. A dense riparian shrub layer can also be present. Restricted distribution in eastern Victoria, principally on tablelands of East Gippsland.

Indicator Species: *Eucalyptus camphora, Eucalyptus stellulata* (sometimes with *Eucalyptus radiata* or *Eucalyptus rubida*), *Poa labillardierei, Elymus scaber, Carex gaudichaudiana, Carex appressa, Hypericum japonicum, Deyeuxia quadriseta, Epilobium gunnianum, Gratiola peruviana, Ranunculus lappaceus, Blechnum penna-marina, Blechnum minus, Leptospermum grandifolium, Leptospermum myrtifolium, Rubus parvifolius, Geranium potentilloides, Veronica gracilis.*

An example of Montane Riparian Woodland in West Gippsland

Montane Sedgeland EVC #148

Description

Defining characteristics: Sedgy-herbaceous wetland communities around springs, soaks and low-gradient drainage-lines at montane elevations. Very localised distribution in high rainfall areas of Central Highlands and East Gippsland, occurring in association with Montane Riparian Thicket or Montane Riparian Woodland or occasionally Cool Temperate Rainforest.

Indicator species: *Carex gaudichaudiana, Carex appressa, Sphagnum* spp., *Epilobium* spp. and *Hydrocotyle* spp., variously in association with *Poa labillardierei, Eleocharis gracilis, Veronica gracilis* s.l., *Gonocarpus micranthus, Austrofestuca hookeriana, Hydrocotyle tripartita, Hypericum japonicum, Lobelia surrepens, Geranium potentilloides, Acaena novae-zelandiae, Luzula modesta, Oreomyrrhis eriopoda, Blechnum penna-marina, Juncus alexandri, Hierochloe redolens* and *Deyeuxia innominata*.

An example of Montane Sedgeland (foreground) with Montane Bog (wetland EVC 966) in background

Montane Sedgeland in East Gippsland

Montane Swamp EVC #318

Description

Defining characteristics: Sedgy-herbaceous montane wetland communities (e.g. Morass Creek near Benambra). The relevant low, shrubby vegetation of boggy flats (as previously included within Montane Swamp) is referred to Montane Bog. Rare, East Gippsland.

Indicator species: *Myriophyllum* spp., *Hydrocotyle tripartita, Carex appressa, Ranunculus* spp.

A close up view of Montane Swamp in East Gippsland

Perched Boggy Shrubland Aggregate EVC #185

Description

Defining characteristics: Dense mosaic of shrubland in association with a grassy/sedgy ground-layer in which mosses are abundant, occurring on reliably saturated soils associated with impeding layers, soaks and springs. Swampy Riparian Woodland occurs in similar habitats to Perched Boggy Shrubland, but the former is associated with flowing water. Perched Boggy Shrubland Complex is reported as always surrounded by Herb-rich Foothill Forest (EVC 23). Very restricted extent, confined to north-east.

Indicator species: *Baeckea utilis, Sphagnum* spp., *Epacris breviflora, Leptospermum continentale, Acacia verticillata, Gonocarpus micranthus, Ranunculus* spp., *Gahnia* spp., *Baumea* spp.

An example of Perched Boggy Shrubland Aggregate in the Strathbogie Ranges, north-eastern Victoria

An example of Perched Boggy Shrubland Aggregate in the Strathbogie Ranges, north-eastern Victoria

An example of Perched Boggy Shrubland Aggregate in the Strathbogie Ranges, north-eastern Victoria

Plains Grassy Wetland EVC #125

Description

Defining characteristics: Grassy-herbaceous shallow seasonal wetlands of fertile lowland plains, characteristically species-rich (at least on verges) when relatively intact. Zones interpreted as representing complexes between Plains Grassy Wetland and several other wetland EVCs are frequently present. Formerly widespread in lowland plains areas.

Indicator species: *Amphibromus* spp. (notably *A. nervosus*), *Rytidosperma duttonianum, Glyceria australis, Poa labillardierei, Lachnagrostis filiformis* var. 2, *Eleocharis acuta, Eleocharis pusilla. Eragrostis infecunda* occurs as an associated (but not dominant) species in drier versions (e.g. Wimmera and rainshadow basalt plains west of Melbourne). Herbs of verge zones of relatively intact sites variously include *Eryngium vesiculosum, Neopaxia australasica, Allittia cardiocarpa, Craspedia paludicola, Microseris* sp. 1, *Potamogeton tricarinatus* s.l., *Helichrysum* aff. *rutidolepis* and *Villarsia reniformis.*

An example of Plains Grassy Wetland at Mount William Swamp, south-western Victoria

Plains Grassy Wetland at Mount William Swamp, south-western Victoria

Plains Grassy Wetland during a dry phase in the Warrnambool region

Plains Grassy Wetland/Aquatic Herbland Complex EVC #755

Description

Defining characteristics: Structural dominants of Plains Grassy Wetland, with Aquatic Herbland component prevalent. Scattered on western basalt plains, especially in cooler areas.

Indicator species: *Glyceria australis* with *Myriophyllum* spp. (notably *M. variifolium*), *Rumex bidens/Potamogeton tricarinatus* s.l., *Neopaxia australasica, Triglochin procera* s.l.

An example of Plains Grassy Wetland/Aquatic Herbland Complex

Plains Grassy Wetland/Aquatic Herbland Complex in the Wimmera region

A close up view of Plains Grassy Wetland/ Aquatic Herbland Complex

Plains Grassy Wetland/Brackish Herbland Complex EVC #767

Description

Defining characteristics: Structural dominants of Plains Grassy Wetland in association with the species of Brackish Herbland. Very restricted and scattered occurrences on western basalt plains, with disjunct outlier at Lake Omeo.

Indicator species:

Western Volcanic Plains – *Glyceria australis, Poa labillardierei* and/or *Rytidosperma duttonianum*, variously with *Lobelia irrigua, Ranunculus diminutis, Isolepis cernua, Triglochin striata, Wilsonia rotundifolia, Samolus repens* and *Selliera radicans*).

Montane community (Lake Omeo) – *Glyceria australis, Lachnagrostis filiformis* var. 1, *Schoenus nitens, Isolepis cernua* and *Ranunculus diminutis.*

An example of Plains Grassy Wetland/Brackish Herbland Complex during a wet phase near Dunkeld, south-western Victoria

An example of Plains Grassy Wetland/Brackish Herbland Complex during a dry phase

An example of a cattle impacted Plains Grassy Wetland/Brackish Herbland Complex during a dry phase

Plains Grassy Wetland/Calcareous Wet Herbland Complex EVC #958

Description

Defining characteristics: Structural dominants (and some of key indicator dicot herbs) of Plains Grassy Wetland in association with a low mat of herbs indicative of wet calcareous conditions. Extremely rare, in south-west (near Casterton).

Indicator species: *Glyceria australis, Hydrocotyle muscosa, Asperula subsimplex, Isolepis fluitans* and *Senecio psilocarpus*, with associated species including *Lachnagrostis filiformis* var. 2, *Eleocharis acuta, Potamogeton tricarinatus* s.l. and *Triglochin procera* s.l.

A close up view of Plains Grassy Wetland/ Calcareous Wet Herbland Complex

A close up view of Plains Grassy Wetland/ Calcareous Wet Herbland Complex

Plains Grassy Wetland/Sedge-rich Wetland Complex EVC #959

Description

Defining characteristics: Treeless seasonal wetland with association of Black Bristle-sedge (indicative of Sedge-rich Wetland) with species characteristic of Plains Grassy Wetland. Very rare, scattered sites on western basalt plains, also Wimmera (e.g. State Forest north of White Lake).

Indicator species: *Chorizandra enodis*, (and in high quality sites *Craspedia paludicola*) dominant, associated species include *Lachnagrostis aemula* s.l., *Lachnagrostis filiformis* var. 2, *Amphibromus nervosus, Allittia cardiocarpa, Rytidosperma duttonianum, Eleocharis acuta, Eleocharis pusilla, Eryngium vesiculosum, Glyceria australis, Microseris* sp. 1, *Pentapogon quadrifidus* var. *quadrifidus, Potamogeton tricarinatus* s.l., *Schoenus apogon* and *Villarsia reniformis.*

An example of Plains Grassy Wetland/Sedge-rich Wetland Complex near Edenhope, south-west Wimmera

Plains Grassy Wetland/Sedge-rich Wetland Complex in the Wimmera region

Plains Grassy Wetland/Sedge-rich Wetland Complex south of Edenhope

Plains Grassy Wetland/Spike-sedge Wetland Complex EVC #960

Description

Defining characteristics: Low open wetland vegetation dominated by spike-sedge with a sparse floristic component of Plains Grassy Wetland. Scattered sites in western Victoria.

Indicator species: The main species include *Glyceria australis, Eleocharis acuta, Lachnagrostis filiformis* var. 1 and var. 2 and *Amphibromus nervosus*, sometimes with *Neopaxia australasica* and *Potamogeton tricarinatus* s.l., lower rainfall variants also with *Eragrostis infecunda*.

An example of Plains Grassy Wetland/Spike-sedge Wetland Complex in the Wimmera region

An example of Plains Grassy Wetland/Spike-sedge Wetland Complex in south-western Victoria

Plains Grassy Wetland/Spike-sedge Wetland Complex at Bryan Swamp, south-western Victoria

Plains Grassy Wetland/Spike-sedge Wetland Complex in the Wimmera region

Plains Rushy Wetland EVC #961

Description

Defining characteristics: Rush-dominated wetlands with floristic affinities to Plains Grassy Wetland. Scattered on plains of central western and north-central areas of Victoria.

Indicator species: *Juncus flavidus, Juncus semisolidus, Eleocharis acuta, Lachnagrostis filiformis* var. 1. Ephemeral component noted at some locations.

An example of Plains Rushy Wetland during a dry phase at Winter Swamp, Ballarat

A close up view of Plains Rushy Wetland during a dry phase at Winter Swamp, Ballarat

Plains Saltmarsh EVC #888

Description

Defining characteristics: Low, primarily herbaceous (to grassy) vegetation of salinised heavy soils in seasonally or intermittently waterlogged shallow depressions on lowland plains, dominated by species of *Sarcocornia* and *Suaeda* (rather than species of *Tecticornia* (formerly *Halosarcia*) and/ or *Frankenia* as in Samphire Shrubland). Plains Saltmarsh is frequently included (and mapped) as a component of Saline Lake Aggregate. Scattered in less arid western areas.

Indicator species: *Sarcocornia quinqueflora, Suaeda australis, Samolus repens, Puccinellia stricta* var. *perlaxa*.

Plains Saltmarsh near Lake Corangamite

An example of Plains Saltmarsh at Barpinba, south-western Victoria

An example of Plains Saltmarsh

A close up view of Plains Saltmarsh at Lake Carchap, Wimmera region

Plains Sedgy Wetland EVC #647

Description

Defining characteristics: Sedge-dominated wetland vegetation of lowland plains, with conspicuous and potentially diverse herbaceous component, including species characteristically associated with wet sites on fertile soils. Moisture supply appears to be more reliable (e.g. associated with springs/seepage) than for sites supporting Plains Grassy Wetland. Scattered on plains and tablelands on and south of the Divide.

Indicator species: *Carex tereticaulis* (or sometimes *Baumea arthrophylla*), *Eleocharis acuta* and *Amphibromus* spp., *Neopaxia australasica, Stellaria angustifolia* (and in highest quality sites, species including *Craspedia paludicola, Senecio psilocarpus, Microseris* sp. 1, *Allittia cardiocarpa* and *Xerochrysum palustre*). Plains Sedgy Wetland can occur in mosaic or complex with Plains Grassy Wetland and Aquatic Herbland. Some variants attributed to Plains Sedgy Wetland approach Sedge Wetland but can be distinguished by the herb-rich component shared with Plains Grassy Wetland.

An example of Plains Sedgy Wetland at Bryan Swamp, south-western Victoria

Plains Sedgy Wetland at Cowling Swamp, south-western Victoria

Plains Sedgy Wetland/Sedge Wetland Complex EVC #1010

Description

Defining characteristics: Sedge-dominated wetland vegetation of cooler lowland plains, with structural characteristics of Sedge Wetland, but including herbaceous species characteristically associated with wet sites on fertile soils (i.e. structurally and floristically intermediate between the two EVCs). Rare, disjunct sites in southern Victoria.

Indicator species: *Lepidosperma longitudinale* and/or *Baumea arthrophylla*, often with *Schoenus* spp. (*S. tesquorum, S. apogon*); diversity variable (within wetland), with associated species variously including *Craspedia paludicola, Senecio psilocarpus, Allittia cardiocarpa* and *Xerochrysum palustre*.

An example of Plains Sedgy Wetland/Sedge Wetland Complex near Casterton

A close up view of Plains Sedgy Wetland/Sedge Wetland Complex

Plains Sedgy Wetland/Sedge Wetland Complex near Casterton

Plains Sedgy Woodland EVC #283

Description

Defining characteristics: Woodland of seasonally inundated shallow depressions on broad plains, within floodplains and fringing dunes. The most similar EVCs are Seasonally Inundated Shrubby Woodland, or for wettest forms, Red Gum Swamp or Sedge-rich Wetland. Typically species-rich (at least in drier sites/on verges) with many species (notably geophytes) at low frequencies. South-western areas of Victoria, principally in the vicinity of the Grampians.

Indicator species: *Eucalyptus camaldulensis* (sometimes with *E. leucoxylon, E. melliodora* and/or *E. microcarpa*), *Leptospermum* spp. (sparse), *Lepidosperma* spp. (variously *L. longitudinale, L. lineare* and *L. congestum*), *Chorizandra enodis, Schoenus tesquorum, Villarsia reniformis, Isolepis fluitans, Potamogeton tricarinatus* s.l. etc.

An example of Plains Sedgy Woodland near Edenhope, south-west Wimmera

A close up view of Plains Sedgy Woodland

Plains Sedgy Woodland at Lake Londsdale, Wimmera region

An example of Plains Sedgy Woodland at Lake Londsdale, Wimmera region

Plains Swampy Woodland EVC #651

Description

Defining characteristics: Woodland with tussocky (grassy/sedgy) ground-layer, which includes herbs characteristic of poorly-drained seasonally water-logged dark clay soils of paludal deposits on cooler lowland plains. Context appears to have been mainly dampland, but extending into marginal wetland situations, wetland verges or as a dampland-wetland mosaic. Formerly scattered on southern plains of Victoria but now much depleted.

Indicator species: *Eucalyptus ovata* (occasionally *E. camaldulensis*), *Acacia melanoxylon, Poa labillardierei, Carex* spp., *Lachnagrostis* spp., with e.g. *Lobelia spp., Eryngium vesiculosum, Centella cordifolia.* Shrubs (*Ozothamnus ferrugineus, Leptospermum continentale, Allocasuarina paludosa*) can be present in highest rainfall plains areas.

Plains Swampy Woodland with Swamp Scrub (wetland EVC 53) in background near Portland, south-western Victoria

Plains Swampy Woodland/Lignum Swamp Complex EVC #784

Description

Defining characteristics: Vegetation including a mixture of structural components of Plains Swampy Woodland and Lignum Swamp (without floristic attributes of Red Gum Swamp). Extremely rare, drier volcanic plains, mainly in rainshadow area to the west of Melbourne.

Indicator species: *Eucalyptus camaldulensis, Muehlenbeckia florulenta, Poa labillardierei, Lachnagrostis filiformis* var. 1, *Ottelia ovalifolia, Schoenus apogon, Persicaria prostrata, Lythrum hyssopifolia, Amphibromus* spp., and *Rytidosperma* spp.

An example of Plains Swampy Woodland/ Lignum Swamp Complex at Spectacle Lake, Point Cook

Plains Swampy Woodland/Lignum Swamp Complex at Spectacle Lake, Point Cook

Red Gum Swamp EVC #292

Description

Defining characteristics: Woodland of swampy depressions of lowland plains, with sedgy-herbaceous understorey including aquatic species. Scattered on lowland plains, principally in the Riverina and south-west of Wimmera, extremely rare on the western volcanics.

Indicator species: *Eucalyptus camaldulensis, Carex tereticaulis* (or rarely *Baumea arthrophylla*), *Eleocharis acuta, Marsilea drummondii, Myriophyllum crispatum.*

Red Gum Swamp at Goroke in the Wimmera region

Red Gum Swamp in north-eastern Victoria

An example of Red Gum Swamp at Puckapunyal

Riparian Scrub EVC #191

Description

Defining characteristics: Dense shrubby vegetation associated with waterlogged ground along poorly-defined drainage-lines, often in areas with sandy (or granite-derived) soils, in less fertile and more acidic but similarly wet sites to Swamp Scrub. Higher rainfall southern areas. *Leptospermum lanigerum* dominated variant on Mt Disappointment and in Strathbogie Ranges, previously referred to Riparian Scrub better referred to Riparian Thicket (EVC 59).

Indicator species: *Melaleuca squarrosa* (sometimes alternatively *Leptospermum lanigerum*), *Gleichenia microphylla, Baumea tetragona, Baumea gunnii, Gahnia sieberiana, Lepidosperma elatius.*

Riparian Scrub in the Gippsland region

An example of riparian scrub near Heywood, south-western Victoria

A close up view of Riparian Scrub in south-western Victoria

Riparian Scrub near Heywood, south-western Victoria

Riparian Thicket EVC# 59

Description

Defining characteristics: Closed scrub with component of ferns and large sedges, occurring along swampy drainage lines with acidic soils, at altitudes intermediate between the habitats of Riparian Scrub and Montane Riparian Thicket (c. 450–700 m). Very localised on ranges north of the divide (e.g. Mt Disappointment, Murrindindi and Strathbogies).

Indicator species: *Leptospermum lanigerum, Blechnum nudum, Blechnum wattsii, Coprosma quadrifida, Gleichenia microphylla, Tetrarrhena juncea, Mentha laxiflora, Agrostis* sp. agg. aff. *hiemalis, Gratiola pubescens* and *Veronica calycina.*

No photo available.

Riverine Chenopod Woodland EVC #103

Description

Defining characteristics: Eucalypt woodland of the most elevated of the flood-prone riverine terraces, intact examples with a diverse shrubby-grassy understorey which can be rich in annual species. Prior to river regulation the habitat was prone to at least irregular shallow flooding, and constitutes intermittent wetland. Floodplains of the north-west of the State.

Indicator species: *Eucalyptus largiflorens, Muehlenbeckia florulenta, Chenopodium nitrariaceum, Rytidosperma setaceum, Eremophila* spp., *Pittosporum angustifolium, Exocarpos aphyllus, Calocephalus sonderi, Goodenia* spp., *Brachyscome* spp., *Lepidium* spp. (and general diversity of annual herbs).

Riverine Chenopod Woodland north-west of Piambie in the Murray Mallee region

Riverine Chenopod Woodland at Lake Albacutya, northern Wimmera

An example of Riverine Chenopod Woodland at Yungera Island, Murray Mallee region

Riverine Ephemeral Wetland EVC #975

Description

Defining characteristics: Herbland of floor of riverine depression, with a mixture of species from less inundation-prone riverine forest/ woodland and species of shallow ephemeral wetland. Rare, recorded from Barmah Forest.

Indicator species: Partially with scattered or overhanging *Eucalyptus camaldulensis*, but primarily without woody species. The structurally dominant species are *Isolepis fluitans, Geranium* spp. and *Acaena novae-zelandiae.* Species diversity is relatively low.

No photo available.

Riverine Swamp Forest EVC #814

Description

Defining characteristics: Tall open eucalypt forest (to woodland), to 30–40 m or more in height with (generally species-poor) understorey dominated by obligate wetland species (or opportunistic annuals during sustained dry periods). Murray River floodplain, restricted outside of Barmah Forest.

Indicator species: *Eucalyptus camaldulensis*, variously with *Pseudoraphis spinescens, Eleocharis acuta*, (locally) *Amphibromus fluitans*, or sometimes bare (leaf-litter/mud). Where present, associated species variously include *Lachnagrostis filiformis, Cardamine moirensis, Ranunculus pumilio, Triglochin procera* s.l. and *Centipeda cunninghamii.* On localised areas of flood-prone sandy terraces, connected to the river or major floodway creeks, *Eragrostis* spp. and *Cynodon dactylon* var. *pulchellus* can be locally dominant. This vegetation is transitional to Intermittent Swampy Woodland and was treated as a variant of the latter along the lower Murray.

Riverine Swamp Forest at Barmah Forest

An example of Riverine Swamp Forest in mosaic with Sedgy Riverine Forest/Riverine Swamp Forest Complex (wetland EVC 817) at Barmah

Riverine Swamp Forest with Spike-sedge Wetland (wetland EVC 819) on waters edge at Barmah Forest

Riverine Swampy Woodland EVC #815

Description

Defining characteristics: Eucalypt woodland to open woodland, ground-layer grassy to sedgy to herbaceous, with species indicative of periodic water-logging (and with floristic affinities to Plains Grassy Wetland). Depleted and rare, most extensive at Barmah Forest.

An example of Riverine Swampy Woodland at Barmah Forest

An example of Riverine Swampy Woodland at Gunbower Island State Forest during prolonged dry conditions

Indicator species:

Riverina Plains – *Eucalyptus microcarpa*, or sparse *E. camaldulensis* in wetter central areas. Species include *Pycnosorus globosus, Amphibromus nervosus, Rytidosperma duttonianum, Lachnagrostis filiformis* var. 1, *Eleocharis acuta, Juncus* spp. (*J. flavidus, J. amabilis, J. subsecundus, J. pallidus), Whalleya proluta, Isolepis* spp., *Alternanthera denticulata* s.l., *Lythrum hyssopifolia, Swainsona procumbens, Asperula conferta, Haloragis aspera, Calotis scapigera, Marsilea* spp., *Lobelia concolor* and *Rumex* spp.

Riverine Floodplain – *E. camaldulensis* (sometimes with scattered *E. largiflorens*), with species including *Rytidosperma duttonianum, Amphibromus nervosus, Eleocharis acuta, Eleocharis pusilla, Lobelia concolor, Wahlenbergia fluminalis, Goodenia* spp., *Calotis* spp., *Marsilea* spp. and *Brachyscome basaltica* var. *gracilis*. Sparse tussocks of *Carex tereticaulis* or *Paspalidium jubiflorum* can also be present.

Rushy Riverine Swamp EVC #804

Description

Defining characteristics: Aggregate EVC describing the various zones of vegetation associated with semi-permanent wetlands with (turf/aquatic) grassy species co-dominating in mosaic or association with components of tall rushland and aquatic herbs. Concentrically zoned wetland with lawn-like grassy centres during drier periods or as patchy structural mosaic. Variously including species poor components of Tall Marsh, Floodplain Grassy Wetland, Aquatic Sedgeland, Aquatic Herbland and Dwarf Floating Aquatic Herbland. Scattered and restricted, floodplains in less arid parts of the Riverina, upstream from Gunbower Island.

Indicator species: Dominated by *Amphibromus fluitans* and/or *Pseudoraphis spinescens*, with *Stellaria caespitosa* and/or *Myriophyllum* spp. (mostly *M. variifolium or M. crispatum*), and ringed by/in mosaic with *Juncus ingens. Eucalyptus camaldulensis* is present around the verges. Additional aquatics which can be present include *Azolla filiculoides*, *Eleocharis sphacelata, Ludwigia peploides* subsp. *montevidensis, Potamogeton tricarinatus* s.l., *Landoltia punctata, Ricciocarpus natans, Vallisneria americana* and *Stellaria caespitosa*.

An example of Rushy Riverine Swamp

Saline Aquatic Meadow EVC #842

Description

Defining characteristics: Submerged herbland of thin grass-like plants, occurring within brackish to hyper-saline waterbodies (shallow lakes and swamps and intermittent wetland ponds). The vegetation is characteristically extremely species-poor, comprising one or more species of *Lepilaena* or *Ruppia*. Widespread in lowlands (within restricted habitat), principally in the Wimmera, western volcanics and coastal areas.

Indicator species: Variously *Ruppia megacarpa, Ruppia polycarpa, Lepilaena* spp. (e.g. *L. priessii, L. bilocularis, L. cylindrocarpa*), *Ruppia maritima* (confined to north-west of the State).

Saline Aquatic Meadow in pond context within Coastal Saltmarsh Aggregate (wetland EVC 9), Western Port

An example of Saline Aquatic Meadow

A close up view of Saline Aquatic Meadow

A close up view of Saline Aquatic Meadow

Saline Lake Aggregate EVC #717

Description

Defining characteristics: Collective label for the various zones of vegetation associated with the floors and verges of saline waterbodies. Components of the aggregate variously include Saline Aquatic Meadow, Plains Saltmarsh, Brackish Herbland, Brackish Sedgeland and (on drier verges) Brackish Grassland. Mainly western and northern areas, but also scattered sites on coastal plains.

Indicator species: See descriptions of component EVCs.

Saline Lake Aggregate with sequence of wetland EVCs from: Salt Paperbark Woodland (676), Brackish Sedgeland (13), Brackish Herbland (538), Samphire Shrubland (101) and Saline Aquatic Meadow (842)

Saline Lake Aggregate including Plains Saltmarsh (wetland EVC 888) in mid foreground

Saline Lake-verge Aggregate EVC #648

Description

Defining characteristics: Collective label for the various zones of vegetation associated with the verges of saline waterbodies. Potential components of the saline lake aggregate variously include Saline Aquatic Meadow, Plains Saltmarsh, Brackish Herbland, Brackish Sedgeland, Brackish Wetland Aggregate and (on drier verges) Brackish Grassland and Brackish Shrubland. Mainly western and northern areas, but also scattered sites on coastal plains.

Indicator species: See descriptions of component EVCs.

An example of Saline Lake-verge Aggregate at Lake Linlithgow, south-western Victoria

Salt Paperbark Woodland EVC #676

Description

Defining characteristics: Melaleuca woodland with halophytic understorey, occurring on seasonally waterlogged heavy clay soils on saline flats and lake verges of inland semi-arid areas. Restricted, drier northern and western areas of the State.

Indicator species: *Melaleuca halmaturorum*, with *Tecticornia* (formerly *Halosarcia*) spp., *Sarcocornia quinqueflora* and halophytic herbs – e.g. variously *Triglochin striata, Mimulus repens, Selliera radicans*.

An example of Salt Paperbark Woodland

Salt Paperbark Woodland in the Wimmera region

Salt Paperbark Woodland in background with Samphire Shrubland (EVC 101) in foreground at Pink Lake

Salt Paperbark Woodland at Heard Lake in the Wimmera region

Samphire Shrubland EVC #101

Description

Defining characteristics: Low halophytic shrubland of drier inland areas, dominated by succulent-stemmed chenopods (samphires). Lower rainfall western and northern areas.

Indicator species: *Tecticornia* (formerly *Halosarcia*) spp., *Frankenia* spp.; potentially more diverse with a range of small annual herbs (e.g. *Brachyscome lineariloba, Crassula sieberiana* s.l., *Hymenobolus procumbens, Senecio glossanthus, Triglochin* spp.) on outer verges and mounds.

Example of Samphire Shrubland north of Hopetoun in the Mallee region

Samphire Shrubland fringed by Brackish Sedgeland (wetland EVC 13) in the Wimmera region

An example of Samphire Shrubland at Mitre Lake, Wimmera region

A close up view of Samphire Shrubland at Oliver's Lake near Natimuk

Sea-grass Meadow EVC #845

Description

Defining characteristic: Sward-forming aquatic herbland of sheltered marine shallows, intertidal flats and lower estuarine habitats. Scattered along Victorian coast, with most extensive development within Corner Inlet and Western Port.

Indicator species: *Zostera* and/or *Heterozostera* spp., often monospecific and sometimes in close proximity to stands of *Avicennia marina. Zostera muelleri* extends into lower estuarine habitats, with *Heterozostera tasmanica* conspicuous on intertidal mud flats. A localised variant of inter-tidal mud-flats of western Port Phillip Bay includes *Lepilaena marina* and *Ruppia tuberosa*.

A close up view of Sea-grass Meadow showing the sub-tidal species *Heterozostera nigricaulis* in Port Phillip Bay

A close up view of Sea-grass Meadow showing a mixed bed of *Lepilaena marina* and *Zostera muelleri* (predominantly *L. marina*) in Port Phillip Bay

A close up view of Sea-grass Meadow showing the predominantly intertidal species *Zostera muelleri* in Port Phillip Bay

A close up view of Sea-grass Meadow showing the sub-tidal species *Heterozostera nigricaulis* in Port Phillip Bay

Seasonally Inundated Shrubby Woodland EVC #195

Description

Defining characteristics: Woodland of broad drainage lines and poorly-drained flats (e.g. recent Quaternary swamp deposits, seasonally waterlogged depression between dunes), in habitat that is usually inundated (or at least water-logged) for extensive periods over winter. The EVC is characteristically rich in geophytes, sedges and annual herbs. Principally in south-west, but extending into north-central areas of the State and central Gippsland.

Indicator species: *Eucalyptus* spp. (notably *E. camaldulensis*, also *E. leucoxylon* and *E. melliodora; E. ovata* in Gippsland) with *Callistemon* spp. (*C. rugosulus* in western Victoria; *C. citrinus* in Gippsland) and *Melaleuca* spp. in wetter sites (notably *M. decussata* and *M. gibbosa; M. parvistaminea* in Gippsland). *Melaleuca brevifolia* dominated shrubland/ heath in sub-saline sites is described as Brackish Shrubland.

An example of Seasonally Inundated Shrubby Woodland at Little Desert National Park

Seasonally Inundated Shrubby Woodland near Edenhope

An example of Seasonally Inundated Shrubby Woodland at Fish Hole Swamp, Wimmera region

Seasonally Inundated Shrubby Woodland near Nagambie

Seasonally Inundated Sub-saline Herbland EVC #196

Description

Defining characteristic: Very species-poor low herbland of seasonal saline wetland within relicts of former tidal lagoons, dominated by *Wilsonia* spp. The habitat is not inundated tidally, but by overland flows. Extremely localised (mostly Bellarine Peninsula, small areas in the Gippsland Lakes)

Indicator species: *Wilsonia humilis* and/or *W. backhousei, W. rotundifolia.*

A close up view of Seasonally Inundated Sub-saline Herbland at Salt Swamp, Bellarine Peninsula

Sedge Wetland EVC #136

Description

Defining characteristics: Seasonally inundated freshwater sedgeland of depressions, typically within swales amidst soils with a substantial sandy component, clearly dominated by tall sedges, lacking the diversity of broad-leaved herbs associated with relatively intact Plains Sedgy Wetland (and occurring within relatively less-fertile land-types than the latter). Widespread in southern and higher rainfall western areas.

Indicator species: *Lepidosperma longitudinale, Baumea arthrophylla* and/or *Baumea juncea* diversity variable, associated species variously including *Schoenus* spp. (variously *S. tesquorum, S. apogon, S. brevifolius*), *Goodenia humilis* and *Patersonia* spp.

Close up view of Sedge Wetland in south-western Victoria

An example of Sedge Wetland at Grassy Flats Swamp, far south-western Victoria

A close up view of Sedge Wetland at Tremaine Swamp, far-south Western Victoria

A close up view of Sedge Wetland, south-western Victoria

Sedge Wetland/Aquatic Sedgeland Complex EVC #963

Description

Defining characteristics: Tall sedgeland, with a component of septate, hollow-leaved sedges and aquatic herbs. Outer fringes are typically richer, with species characteristic of Sedge Wetland. Restricted, principally in south-west but with disjunct outliers further east (e.g. Dereel, Brisbane Ranges).

Indicator species: *Baumea articulata, Chorizandra australis* (or possibly on occasions *C. cymbaria*), *Lepidosperma longitudinale, Baumea arthrophylla, Villarsia reniformis, Myriophyllum* spp. (*M. crispatum* and *M. simulans*), *Triglochin procera* s.l. and *Isolepis fluitans*. The outer drier verges are much more species-rich (see Sedge Wetland).

An example of Sedge Wetland/Aquatic Sedgeland Complex during a dry phase at Dereel Lagoon, south-western Victoria

An example of Sedge Wetland/Aquatic Sedgeland Complex during a wet phase near Heywood, south-western Victoria

Sedge Wetland/Aquatic Sedgeland Complex near Heywood, south-western Victoria

An example of Sedge Wetland/Aquatic Sedgeland Complex during a wet phase near Heywood, south-western Victoria

Sedge Wetland/Brackish Herbland Complex EVC #1113

Description

Defining characteristics: Sedgeland of near coastal depressions, with the structural dominant species of Sedge Wetland occurring in association with a component of halophytic herbs. Very rare, recorded from sub-saline sandy soils with a high organic content on the Mornington Peninsula, but potentially at least previously more widespread in coastal areas.

Indicator Species: *Baumea arthrophylla, Baumea juncea* and/or *Lepidosperma longitudinale*, variously with e.g. *Lobelia irrigua, Isolepis cernua, Schoenus nitens, Selliera radicans*, *Distichlis distichophylla* and/or *Samolus repens*.

A close up view of Sedge Wetland/Brackish Herbland Complex

Sedge Wetland/Calcareous Wet Herbland Complex EVC #883

Description

Defining characteristics: Open sward of sedge species characteristic of Sedge Wetland, in association with herbaceous species of wet calcareous habitats. Rare with variants from near-coastal Western Victoria and South Gippsland.

Indicator species:

Western Victoria – *Baumea arthrophylla, Lachnagrostis filiformis* var. 2, *Centella cordifolia, Hydrocotyle muscosa, Isolepis fluitans, Myriophyllum simulans, Goodenia humilis, Schoenus tesquorum* and *Villarsia reniformis*, with a wide range of associated species at low frequencies on more species-rich outer verges.

South Gippsland – *Baumea arthrophylla, Baumea juncea, Carex appressa, Poa labillardierei, Hydrocotyle* spp. (*H. sibthorpioides* s.l., *H. pterocarpa, H. muscosa*), *Mentha diemenica,* with a wide range of associated species at low frequencies on more species-rich outer verges. *Gahnia trifida* appears to have been greatly reduced by grazing following burning.

An example of Sedge Wetland/Calcareous Wet Herbland Complex near Casterton, south-western Victoria

An example of Sedge Wetland/Calcerous Wet Herbland Complex in South Gippsland

Sedge-rich Wetland EVC #281

Description

Defining characteristics: Treeless (or nearly so) vegetation of small swamps on seasonal drainage lines, characterised by a diversity of small sedges, the extent of bare earth and lack of shrubs. Habitat prone to shallow seasonal inundation and extreme summer dryness. Typically species-rich, with many seasonal species present at very low frequencies. Restricted, south-western areas.

Indicator species: *Chorizandra enodis,* diversity of small plants (especially sedges), e.g. *Isolepis fluitans, Schoenus latelaminatus, Juncus holoschoenus, Juncus bufonius, Gratiola pumilo, Schoenus tesquorum, Lilaeopsis polyantha, Neopaxia australasica, Goodenia humilis* and *Villarsia reniformis.*

Sedge-rich Wetland in foreground with Seasonally Inundated Shrubby Woodland (wetland EVC 195) in background, Wimmera region

An example of Sedge-rich Wetland near Casterton, south-western Victoria

Sedge-rich Wetland west of Casterton, south-western Victoria

A close up view of Sedge-rich Wetland near Lake Mundi, south-western Victoria

Sedgy Riverine Forest EVC #816

Description

Defining characteristics: Eucalypt forest (to woodland) with understorey dominated by larger sedges (to sedgy-herbaceous or sedgy-grassy), floristics with some affinities to Red Gum Swamp. Floodplains of less arid Riverina and Wimmera (absent from further north-west).

Indicator species:

Murray River Floodplain: *Eucalyptus camaldulensis* with *Carex tereticaulis*, variously with *Bolboschoenus medianus, Paspalidium jubiflorum, Eleocharis acuta, Juncus amabilis, Lobelia concolor, Brachyscome basaltica, Amphibromus nervosus, Lachnagrostis filiformis* var. 1 and *Calotis* spp., *Stellaria angustifolia, Phragmites australis* and *Craspedia paludicola,* with *Eleocharis pusilla* on drier margins.

Wimmera: *Eucalyptus camaldulensis* with *Carex tereticaulis* and associated species including *Cyperus* spp., *Isolepis* spp., *Juncus* spp., *Centipeda cunninghamii, Calotis scapigera, Crassula helmsii, Triglochin* spp. and *Myriophyllum* spp.

Sedgy Riverine Forest at Barmah Forest

An example of Sedgy Riverine Forest at Barmah Forest

An example of Sedgy Riverine Forest in north-eastern Victoria

Sedgy Riverine Forest/Riverine Swamp Forest Complex EVC #817

Description

Defining characteristics: Understorey dominants of Riverine Swamp Forest conspicuous in association or fine-scale mosaic with larger tussock or rhizomatous species characteristic of Sedgy Riverine Forest. Floodplains of less arid Riverina, but mainly within Barmah Forest.

Indicator species: *Eucalyptus camaldulensis,* with *Carex tereticaulis* and variously *Bolboschoenus medianus, Phragmites australis* and *Paspalidium jubiflorum* in association or mosaic with *Eleocharis acuta* and/or *Pseudoraphis spinescens* (also *Amphibromus nervosus, Persicaria* spp. – in particular *P. prostrata, Centipeda cunninghamii, Eclipta platyglossa* and *Lobelia concolor*.

Sedgy Riverine Forest/Riverine Swamp Forest Complex at Barmah Forest

Sedgy Riverine Forest/Riverine Swamp Forest Complex at Barmah Forest

Sedgy Riverine Forest/Riverine Swamp Forest Complex at Gunbower Island State Forest

Sedgy Riverine Forest/Riverine Swamp Forest Complex with Tall Marsh (wetland EVC 821) in background

Sedgy Swamp Woodland EVC #707

Description

Defining characteristics: Woodland with ground layer typically dominated by *Lepidosperma longitudinale* (or rarely *Lepidosperma congestum*) with a range of herbs characteristic of seasonally wet sites. Occurs on seasonally wet flats of coastal plains, on Quaternary sandy soils over heavier sub-soils. Rare, south-west Victoria and Mornington Peninsula.

Indicator species: *Eucalyptus ovata, Lepidosperma longitudinale* (or rarely *Lepidosperma congestum*), *Goodenia humilis, Gratiola pubescens, Villarsia reniformis, Centella cordifolia.*

Sedgy Swamp Woodland near Casterton, south-western Victoria

An example of Sedgy Swamp Woodland in south-western Victoria

Sedgy Swamp Woodland in background near Casterton, south-western Victoria

Shell-beach Herbland EVC #964

Description

Defining characteristics: Turf grassland/ herbland mounds within largely unvegetated areas, occurring on shell deposits on saline lake verge, over grey clay soils. Rare, Lake Corangamite.

Indicator species: *Convolvulus* sp. and *Wilsonia backhousei,* with *Cuscuta* sp., *Distichlis distichophylla, Geranium retrorsum* s.l. and a range of introduced annuals and biennials.

Shell-beach Herbland at Lake Corangamite

A close up view of Shell-beach Herbland

Sink-hole Wetland Aggregate EVC #908

Description

Defining characteristics: Collective label for the various zones of wetland vegetation associated with near-coastal sink-holes in limestone. The central 'sink-hole' portions of the relevant wetlands are species-poor, with mats of aquatics. This inner zone is fringed by a sedgy verge, which is fringed by Swamp Scrub at the few known sites. Rare, far south-west.

Indicator species: *Myriophyllum salsugineum* and *Nitella* spp. (Characeae), *Baumea arthrophylla, Baumea juncea, Schoenoplectus pungens, Typha* spp., *Triglochin procera* s.l., *Leptospermum lanigerum* (outer verges).

An example of Sink-hole Wetland Aggregate along the south-western coast of Victoria

An example of Sink-hole Wetland Aggregate at Bridgewater Lakes (North), south-western Victoria

A close up view of Sink-hole Wetland Aggregate at Bridgewater Lakes (North), south-western Victoria

A close up view of Sink-hole Wetland Aggregate at Lake Mombeong, far south-western Victoria

Spike-sedge Wetland EVC #819

Description

Defining characteristics: Low sedgy vegetation of seasonal or intermittent wetlands, dominated by spike-sedges and usually species-poor. Typically treeless, but sparse eucalypts (mostly *E. camaldulensis*) can be present in marginal sites. Scattered in drier lowlands, including western volcanics, Riverina floodplains and Wimmera.

Indicator species: *Eleocharis acuta* (or rarely *E. pusilla*), monospecific or with *Lachnagrostis filiformis* var. 1 and incidental opportunistic species (e.g. *Crassula helmsii, Triglochin procera* s.l., *Lythrum hyssopifolia, Glyceria australis, Stellaria* spp). The verges can be more species-rich and grade into other EVCs, notably Plains Grassy Wetland.

An example of Spike-sedge Wetland during a wet phase in the Wimmera region

Spike-sedge Wetland fringed by Wet Heathland (wetland EVC 8) in south-western Victoria

Spike-sedge Wetland fringed by Riverine Swamp Forest (wetland EVC 814)

An example of Spike-sedge Wetland in the Wimmera region

Spring Soak Woodland EVC #80

Description

Defining characteristics: Herbland to woodland with shrubby-herbaceous understorey, herb-rich wetland vegetation associated with soaks and springs. Rare, north-east Victoria.

Indicator species: *Eucalyptus* spp. (variously *E. blakelyi, E. goniocalyx, E. cadens, E. ovata* or *E. nortonii*), *Leptospermum continentale*, with *Goodenia macbarronii, Schoenus apogon* and a range of associated herbs, sedges and rushes – e.g. *Aphelia gracilis, Glossostigma elatinoides, Drosera peltata* subsp. *peltata, Centrolepis strigosa, Hypericum japonicum, Isotoma fluviatilis Eragrostis brownii, Juncus* spp.

An example of Spring Soak Woodland in north-eastern Victoria

A close up view of Spring Soak Woodland in north-eastern Victoria

An example of Spring Soak Woodland in north-eastern Victoria

An example of herbland component of Spring Soak Woodland in north-eastern Victoria

Stony Rises Pond Aggregate EVC #857

Description

Defining characteristics: Collective label for the various zones of wetland vegetation associated with more permanent ponds of basaltic stony rises. Components include Dwarf Floating Aquatic Herbland and Wet Verge Sedgeland/Tall Marsh. Rare, stony rises of most recent volcanics (notably near Camperdown).

Indicator species: Various associations of *Lemna disperma, Lemna trisulca, Wolffia australiana, Azolla filiculoides, Carex appressa, Crassula helmsii, Myriophyllum* spp., *Persicaria decipiens* and *Typha domingensis*.

Stony Rises Pond Aggregate during a dry phase at Lake Condah, south-western Victoria

An example of Stony Rises Pond Aggregate near Pomberneit, south-western Victoria

Sub-alpine Wet Heathland EVC #210

Description

Defining characteristics: Wet treeless heathland habitat of sub-alpine soaks or flats along streams. Part of the sub-alpine (to alpine) bog aggregates. Some communities are difficult to interpret as a consequence of degradation of bogs arising from cattle and horse grazing. Localised within higher mountains. Often more shrubby than alpine systems.

Indicator species: *Baeckea* spp., *Epacris* spp. (notably *E. paludosa*), *Empodisma minus* and variously *Callistemon pityoides, sphagnum cristatum, Hakea microcarpa*.

An example of Sub-alpine Wet Heathland in the Moroka River valley, Gippsland (area burnt in 1998)

A close up view of Sub-alpine Wet Heathland

An example of Sub-alpine Wet Heathland in north-eastern Victoria

Sub-alpine Wet Heathland in north-eastern Victoria

Sub-alpine Wet Sedgeland EVC #917

Description

Defining characteristics: Treeless tussocky (grassy-sedgy) vegetation of wet plains on sub-alpine (apparently to alpine) creek flats, with patchy inter-tussock matting of *Sphagnum* spp. (with few large *Sphagnum* hummocks, and patchy *Callistemon* shrubland, both primarily on upper margins). Relatively species-poor when tussock or sward density is moderate to high. Rare, lower elevation snowfields.

Indicator species: *Carex gaudichaudiana* and/or *Carex appressa, Poa* spp., notably *P. helmsii*, with *Psychrophila introloba, Sphagnum* spp. and (patchy) *Callistemon pityoides.*

An example of Sub-alpine Wet Sedgeland at Moroka River Valley, Gippsland

A close up view of Sub-alpine Wet Sedgeland

Submerged Aquatic Herbland EVC #918

Description

Defining characteristics: Extensive submerged beds of Eel Grass (*Vallisneria americana*) in lakes and watercourse ponds. Restricted, mainly in west to north-west, apparently depleted by carp.

Indicator species: *Vallisneria americana* is typically dominant as a submerged sward. *Myriophyllum* spp. may also be present. Submerged Aquatic Herbland can occur in association with a range of wetland components (Tall Marsh, Aquatic Herbland, Brackish Aquatic Herbland and (rarely) Saline Aquatic Meadow).

An example of Submerged Aquatic Herbland

Sub-saline Depression Shrubland EVC #820

Description

Defining characteristics: Low open shrubland/herbland of the highest terraces of the former (i.e. pre-1750) Murray River floodplain in far north-west, dominated by chenopods and succulents, occupying semi-saline treeless pans within the drier (more elevated) Black Box – Chenopod Woodland zone. Rare, far north-west of the State.

Indicator species: The major species include *Sclerolaena tricuspis, Malacocera tricornis* and *Disphyma crassifolium*, variously with *Maireana pentagona* and *Cressa australis, Frankenia* spp. or *Sarcocornia* spp.

Sub-saline Depression Shrubland during a prolonged dry phase near Wentworth, far north-western Victoria

Sub-saline Depression Shrubland during a prolonged dry phase near Wentworth, far north-western Victoria

An example of Sub-saline Depression Shrubland during a prolonged dry phase

Swamp Heathland Aggregate EVC #49

Description

Defining characteristics: Collective label for the various zones of densely shrubby vegetation associated with water-logged flats on acidic soils of the Central Highlands. Considered to include three component EVCs (Riparian Scrub, Wet Heathland and Damp Heathy Woodland). Confined to lower elevations of central highlands east of Melbourne.

Indicator species: *Melaleuca squarrosa, Gleichenia* spp., *Baumea tetragona, Gahnia sieberiana, Epacris lanuginosa, Pultenaea weindorferi, Empodisma minus, Chorizandra cymbaria*, typically fringed by *Eucalyptus cephalocarpa*-dominated Damp Heathy Woodland.

No photo available.

Swamp Scrub EVC #53

Description

Defining characteristics: Dense (and potentially up to 10–15 m) shrubby vegetation of relatively fertile swampy flats, dominated by Myrtaceous shrubs (to small trees), ground-layer often sparse, aquatic species conspicuous, *Sphagnum* and/or water-logging tolerant ferns sometimes present. Formerly widespread in cooler lowland southern areas of Victoria.

Indicator species: *Melaleuca ericifolia, Leptospermum lanigerum, Isolepis inundata, Triglochin procera* s.l., *Villarsia* spp. Swamp Scrub can interface with Riparian Forest, Swampy Woodland, Swampy Riparian Woodland, Riparian Scrub and Seasonally Inundated Shrubby Woodland, and local floristics can reflect these transitions.

Swamp Scrub on Mornington Peninsula

Swamp Scrub near Warrnambool

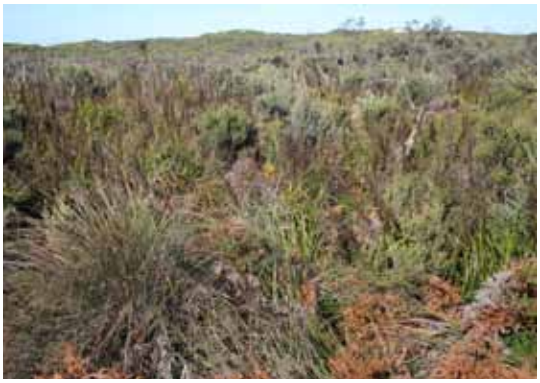
An example of Swamp Scrub in West Gippsland

Swamp Scrub / Gahnia Sedgeland Complex EVC #2004

Description

Defining characteristics: Dense shrubby sedgeland on swampy ground on limestone soils, structurally and floristically intermediate between Gahnia Sedgeland and Swamp Scrub. Very localised in the far south-west of the State (Long Swamp).

Indicator species: *Leptospermum lanigerum, Melaleuca squarrosa, Gahnia trifida, Gahnia clarkei, Baumea juncea, Baumea arthrophylla, Hydrocotyle sibthorpioides, Acaena novae-zelandiae, Urtica incisa, Poa tenera, Lachnagrostis scabra, Leucopogon* sp. aff. *parviflorus, Pteridium esculentum, Blechnum* spp., *Cassytha melantha, Viola hederacea* s.l.; outer margins with *Eucalyptus* sp. aff. ovata and *Ozothamnus* aff. *ferrugineus*.



An example of Swamp Scrub/Gahnia Sedgeland Complex

Swampy Riparian Woodland EVC #83

Description

Defining characteristics: Woodland vegetation (in mosaic with scrub/reed-beds) associated with very low-gradient streams within areas subject to riparian processes. Typically constitutes linear wetland, but includes drier banks and levees, as for Floodplain Riparian Woodland. Scattered in moister lowland areas.

Indicator species: *Eucalyptus ovata* or *Eucalyptus camphora, variously Leptospermum lanigerum, Melaleuca ericifolia* (southern Victoria only), *Phragmites australis, Persicaria decipiens, Calystegia sepium, Acacia melanoxylon, Poa labillardierei* and *Poa ensiformis.*

An example of Swampy Riparian Woodland at Yellingbo, Yarra Ranges

Swampy Woodland EVC #937

Description

Defining characteristics: Swampy Woodland is a poorly understood vegetation type of poorly drained, seasonally waterlogged heavy soils. In the strict sense the label applies to at least seasonally waterlogged vegetation of wet flats, not subject to direct flooding from major streams, but receiving water through seepage or surface run-off. In some instances Swampy Woodland can occur to the rear of current levees on floodplains, receiving water via minor side streams rather than direct flooding from the main watercourse. The distinctions between Swampy Riparian Woodland and Swampy Woodland become more difficult where the habitats occur in narrow bands along low gradient valleys in more dissected terrain. Swampy Woodland occurs as an outer zone to some wetland systems. Formerly widespread in cooler southern areas, mainly in the east, extending into margins of the highlands.

Indicator species: Typically dominated by *Eucalyptus ovata*, but a range of other *Eucalyptus* spp. can be present, especially in drier versions (including *E. fulgens*, *E. ignorabilis, E. yarraensis, E. camphora, E. obliqua, E. radiata*), variously with *Melaleuca ericifolia* (of reduced vigour relative to occurrences within Swamp Scrub and Swampy Riparian Woodland), *Acacia* spp. (including *A. melanoxylon, A.verticillata*), *Goodenia ovata, Coprosma quadrifida, Ozothamnus ferrugineus, Poa* spp., *Carex* spp. and *Lepidosperma* spp.

Swampy Woodland near Casterton, south-western Victoria

An example of Swampy Woodland near Silvan, east of Melbourne

Sweet Grass Wetland EVC #920

Description

Defining characteristics: Very species-poor wetland vegetation, dominated by Sweet Grass (distinguished from Plains Grassy Wetland by extremely low diversity – it is frequently mono-specific or virtually so). Sweet Grass Wetland can form an inner zone to Plains Grassy Wetland and in some (but not all) instances a pragmatic approach may treat Sweet Grass dominated wetland cores as a very species-poor phase of Plains Grassy Wetland. Scattered on western volcanics, also recorded from the less-arid Wimmera.

Indicator species: *Glyceria australis,* sometimes mono-specific or with sparse associated species including *Eleocharis acuta, Rumex bidens* and *Lachnagrostis filiformis* var. 2. *Poa labillardierei* and *Eryngium vesiculosum* are frequently present on drier verges. In some cases a diverse seasonal flora (with affinities to Plains Grassy Wetland) can be expressed as inundation retreats, whereas in others the vegetation remains very species-poor.

An example of Sweet Grass Wetland in south-western Victoria

Sweet Grass Wetland

An example of Sweet Grass Wetland near Horsham, Wimmera region

Sweet Grass Wetland near Casterton, south-western Victoria

Tall Marsh EVC #821

Description

Defining characteristics: Wetland dominated by tall emergent graminoids, typically in thick species-poor swards. Rushland, sedgeland or reedbed – locally closed or in association or fine-scale mosaic with Aquatic Herbland (e.g. along floodway lagoons). The vegetation is typically treeless, but sparse *Eucalyptus camaldulensis* (or in higher rainfall areas, *E. ovata*) are dispersed through some sites where sufficient dry periods occur to allow their survival. Scattered across lowland Victoria.

Indicator species: Variously with *Phragmites australis, Typha* spp., *Juncus ingens, Schoenoplectus tabernaemontanii* and in more marginal sites sometimes also *Bolboschoenus* spp., *Cyperus* spp. or (locally) *Cladium procerum*. Associated species are quite variable and can include aquatics such as *Potamogeton* spp., *Myriophyllum* spp., *Rumex bidens, Stellaria caespitosa, Amphibromus fluitans* and *Pseudoraphis spinescens, Calystegia sepium, Azolla* spp., *Landoltia punctata* and *Lemna* spp. In cooler or more reliably inundated areas, frequent associated species include *Wolffia* spp. and *Urtica incisa*.

An example of Tall Marsh at a swamp near Mildura

An example of Tall Marsh

An example of Tall Marsh

Unknown/Unclassified EVC #999

Description

Defining characteristics: Applicable where vegetation cannot be allocated to a defined EVC and the unvegetated descriptor is not relevant. This can apply in wetlands which have been dry for protracted periods, resulting in colonization by opportunistic dryland species. In some cases this cover may be temporary, while in others it may be indicative of long-term modification.

No photo required.

Indicator species: The composition of the flora is variable, according to the landscape context of the relevant wetland. It can include a range of chenopods in lower rainfall areas (e.g. *Atriplex semibaccata, Einadia nutans, Enchylaena tomentosa, Sclerolaena* spp.), grasses (e.g. *Rytidosperma* spp., *Austrostipa* spp., *Chloris truncata, Enteropogon acicularis, Lachnagrostis filiformis* var. 1) and herbs or shrubs, notably daisies (e.g. *Senecio* spp., *Vittadinia* spp., *Cassinia* spp.). The composition will change according to the length of time since inundation, with the potential for progressive colonisation of a range of less opportunistic species from adjacent dryland communities.

Of the above species, *Lachnagrostis filiformis* var. 1 represents a special case. It can form a dense but temporary cover in some wetlands during briefer dry phases. In some instances, there will be evidence of other EVCs (e.g. incidental *Centipeda cunninghamii* or *Glycyrrhiza acanthocarpa*, being indicative of Floodway Pond Herbland or Lake Bed Herbland respectively), and the wetland zone can be assessed according to the relevant EVC. In the absence of such evidence, it will generally be best to refer dense swards of *L. filiformis* var. 1 to EVC 999, even if it may be a transitory phase following the unvegetated condition (EVC 990). It should be noted that a species-poor cover dominated by stoloniferous to rhizomatous perennial plants currently included within *Lachnagrostis filiformis* var. 2 constitutes clearly representative wetland vegetation, and is referable to EVC 306 (Aquatic Grassy Wetland).

Unvegetated (open water/bare soil/mud) EVC #990

Description

Defining characteristics: Low lying areas which are unvegetated (or nearly so), at least in relation to vascular flora, including relevant habitat on intertidal mudflats. Widespread wetland component, which may or may not alternate across time with various vegetated EVCs.

Indicator species: Lacking vascular flora (but sometimes with sparse opportunistic species).

An example of the Unvegetated EVC or open water

An example of the Unvegetated EVC or open water

The Unvegetated EVC or open water surrounded by Swampy Woodland (wetland EVC 937)

An example of the Unvegetated EVC or open water in foreground

Wet Heathland EVC #8

Description

Defining characteristics: Low shrubby (to sedgy) vegetation associated with impeded drainage on wet flats at lower (sub-montane) elevations. Scattered across less fertile soils of cooler southern and south-western Victoria.

Indicator species: *Melaleuca squarrosa, Leptospermum continentale, Xanthorrhoea* spp., *Gymnoschoenus sphaerocephalus, Lepyrodia* spp., *Leptocarpos* spp. s.l., *Empodisma minus* and including species restricted to water-logged habitats, e.g. *Sprengelia incarnata, Drosera binata, Gonocarpus micranthus*.

An example of Wet Heathland

An example of Wet Heathland on French Island, Western Port

An example of Wet Heathland at Cowling Swamp, south-western Victoria

An example of Wet Heathland with Eucalypt invasion

Wet Heathland/Sedge Wetland Complex EVC #931

Description

Defining characteristics: Sedgy open heathland, transitional in structure and floristics between Wet Heathland and Sedge Wetland. Rare, recorded with certainty only from south-west Victoria.

Indicator species: *Leptospermum continentale, Lepidosperma longitudinale, Lepyrodia* spp and *Schoenus tesquorum*, with associated species including *Amphibromus recurvatus, Rytidosperma semiannulare, Mazus pumilio, Melaleuca squarrosa, Lobelia pedunculata* s.l., *Centella cordifolia* and *Villarsia reniformis*.

An example of Wet Heathland/Sedge Wetland Complex on edge (left side of photo) with Sedge Wetland (wetland EVC 136) (right side of photo) at Smokey Swamp, south-western Victoria

Wet Heathland/Sedge Wetland Complex in foreground near Casterton, south-western Victoria

Wet Swale Herbland EVC #12

Description

Defining characteristics: Wetland vegetation of coastal barrier lagoons, including mixture of aquatic grasses, sedges and herbs. Rare, East Gippsland.

Indicator species: *Pseudoraphis paradoxa, Eleocharis sphacelata, Villarsia reniformis, Myriophyllum* spp.

An example of Wet Swale Herbland during a dry phase at Cape Conran, East Gippsland

An example Wet Swale Herbland during a wet phase at Cape Conran, East Gippsland

Wet Swale Herbland at Ewing Morass, East Gippsland

An example of Wet Swale Herbland at Ewing Morass, East Gippsland

Wet Verge Sedgeland EVC #932

Description

Defining characteristics: Tussock Sedge wetland component of cooler areas, occasionally occurring as main wetland vegetation present, typically dominated by *Carex appressa*. Scattered, mostly in south but extending (as a component of aggregate EVCs) to montane elevations in East Gippsland.

Indicator species: *Carex appressa*, with associated species variously including *Carex fascicularis, Juncus* spp. (notably *J. amabilis, J. gregiflorus, J. holoschoenus*), *Poa labillardierei, Glyceria australis* (pale green less upright forms), *Amphibromus nervosus, Crassula helmsii* and *Persicaria* spp. (e.g. *P. decipiens, P. lapathifolia, P. praetermissa, P. prostrata*), *Centella cordifolia, Eleocharis acuta, Epilobium billardierianum, Epilobium hirtigerum, Goodenia humilis, Lobelia pratioides* and *Hemarthria uncinata* var. *uncinata*.

An example of Wet Verge Sedgeland including Coastal Lagoon Wetland (wetland EVC 11)

A close up view of Wet Verge Sedgeland near Portland

Wet Verge Sedgeland near Casterton, south-western Victoria

An example of Wet Verge Sedgeland near Casterton, south-western Victoria

Additional provisional wetland Ecological Vegetation Classes in Victoria

Wetland EVC benchmarks are yet to be approved by DSE for the following provisional EVCs.

Calcareous Sedgy Shrubland EVC #A106

Description

Defining characteristics: Stunted shrubland with conspicuous sedge component, occurring in coastal barrier swamps on calcareous soils. The activities of yabbies are a conspicuous influence on the soils. Very localised, apparently confined to the far south-west of the State.

Indicator species: Component species include *Leptospermum lanigerum, Gahnia trifida, Logania ovata, Lepidosperma neesii, Schoenus nitens, Euphrasia collina* subsp. *collina, Prasophyllum frenchii, Selliera radians, Cassytha glabella, Lobelia anceps, Hydrocotyle pterocarpa, Comesperma volubile* and *Thysanotus patersonii.* While herbs are generally sparse, some variants can be species-rich.

No photo available.

Coastal Dry Saltmarsh EVC #A110

Description

Defining characteristics: Herbland to low shrubland of upper coastal saltmarsh in lower rainfall areas, subject to relatively infrequent tidal inundation or sometimes in remnant near coastal lacustrine sites which no longer have direct access to tidal inundation events. Localised and severely depleted, Bellarine Peninsula, Western Port Phillip Bay, head of Western Port and Lake Reeve.

Indicator species: Variously dominated by *Sarcocornia blackiana, Frankenia pauciflora, Disphyma crassifolium, Angianthus preissianus* or very rarely *Sebaea albidiflora*. Associated species variously include *Sarcocornia quinqueflora, Samolus repens, Hemichroa pentandra, Triglochin striata, Suaeda australis* and *Distichlis distichophylla*.

An example of Coastal Dry Saltmarsh

An example of Coastal Dry Saltmarsh at Altona

Coastal Dry Saltmarsh at Altona

Coastal Hypersaline Saltmarsh EVC #A111

Description

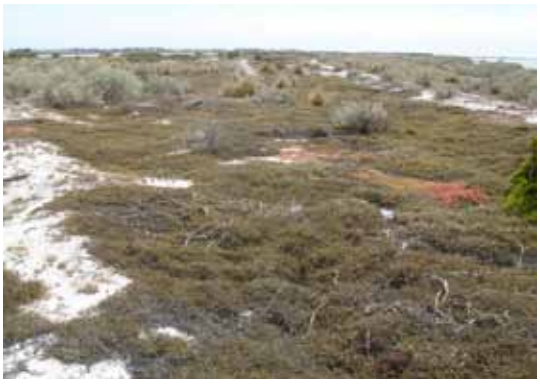
Defining characteristics: Low shrubland dominated by succulent chenopods (or rarely Salt Lawrencia), occurring in highly hypersaline coastal saltmarsh habitat above the zone of regular tides. Extremely localised in Western Port Phillip Bay and on the Bellarine Peninsula, with *Tecticornia pergranulata* dominated community also occurring at Lake Reeve in Gippsland.

Indicator species: Dominated by *Tecticornia pergranulata, T. halocnemoides*, or very locally *Lawrencia squamata*. Can be very species poor, with most consistent associated species including *Sarcocornia quinqueflora* and to a lesser extent *Frankenia pauciflora*, and less frequently *Disphyma crassifolium*, *Samolus repens* and *Suaeda australis*. A range of indigenous annuals can be present in relatively intact sites (e.g. on low mounds associated with *T. halocnemoides*).

An example of Coastal Hypersaline Saltmarsh at The Spit Reserve, Point Wilson

Coastal Hypersaline Saltmarsh at Point Wilson

An example of Coastal Hypersaline Saltmarsh at Cheetham Saltworks, Avalon



Coastal Hypersaline Saltmarsh at The Spit Reserve, Point Wilson

Coastal Saline Grassland EVC #A109

Description

Defining characteristics: Grassland dominated by rhizomatous grasses (at best development forming mounds), occurring towards upper zones of coastal saltmarsh. Restricted extent along Victorian coastline, with scattered distribution but mostly between the Bellarine Peninsula and Western Port Bay.

Indicator species: Frequently very species poor, especially at maximum development. Typically dominated by either *Distichlis distichophylla* (on heavier soils) or *Sporobolus virginicus* (on sandier soils). *Sarcocornia quinqueflora* and *Triglochin striata* are the most frequent associated species recorded with *D. distichophylla. S. virginicus* occurs at the boundary between Coastal Saltmarsh and Estuarine Flats Grassland, and stands may include a component of *Ficinia nodosa*.

A close up view of Coastal Saline Grassland

Coastal Tussock Saltmarsh EVC #A112

Description

Defining characteristics: Upper coastal saltmarsh zones dominated by robust tussocks. Scattered distribution along Victorian coast.

Indicator species: Dominated by either *Gahnia filum* or *Austrostipa stipoides* with a range of halophytic species at lower covers. *Sarcocornia quinqueflora* is typically present, with *Samolus repens, Suaeda australis* and *Distichlis distichophylla* also relatively frequent associates.

An example of Coastal Tussock Saltmarsh

Coastal Tussock Saltmarsh at The Spit Reserve, Point Wilson

An example of Coastal Tussock Saltmarsh near St Leonards

Plains Grassy Wetland/Lignum Swamp Complex EVC #A101

Description

Defining characteristics: Open shrubland with grassy ground-layer including structural and floristic components (grasses and herbs) of Plains Grassy Wetland, occurring in association with Tangled Lignum. Scattered sites in the Riverina, where previously more extensive along ephemeral drainage-lines, also Victorian Volcanic Plains where very restricted in extent.

Indicator species: *Muehlenbeckia florulenta, Rytidosperma duttonianum, Amphibromus nervosus, Walwhalleya proluta, Eragrostis infecunda, Lachnagrostis filiformis* var. 1, *Haloragis aspera, Goodenia* spp., *Juncus flavidus, Lobelia concolor* and *Senecio runcinifolius*. A component of grasses shared with drier sites (e.g. *Chloris truncata* and *Austrostipa* spp.) can be present.

No photo available.

Red Gum Swamp/Cane Grass Wetland Complex EVC #A114

Description

Defining characteristics: Species-poor wetland vegetation transitional between the component EVCs, with River Red Gum occurring in association with Southern Cane-grass and a component of aquatic herbs. Rare, recorded from Wimmera and lowland North-east of the State.

Indicator Species: *Eucalyptus camaldulensis* and *Eragrostis infecunda*, variously with *Potamogeton sulcatus, Myriophyllum crispatum, Eleocharis acuta, Limosella australis, Ottelia ovalifolia, Utricularia australis, Azolla* spp. and *Centipeda cunninghamii.*

An example of Red Gum Swamp/Cane Grass Wetland Complex at Winton Swamp c.1960

Red Gum Swamp/Cane Grass Wetland Complex at Winton Swamp c.1960

An example of Red Gum Swamp/Cane Grass Wetland Complex at Winton Swamp c.1960

Red Gum Swamp/Cane Grass Wetland Complex at Frogmore Swamp, Moolort

Red Gum Swamp/Plains Rushy Wetland Complex EVC #A115

Description

Defining characteristics: Wetland vegetation transitional between the component EVCs, with River Red Gum occurring in association with rushes and a variable component of rhizomatous to stoloniferous aquatic grasses and herbs. Rare, recorded from western North-central and the lowland North-east of the State.

Indicator Species: *Eucalyptus camaldulensis, Juncus semisolidus* and *Juncus flavidus,* variously with *Lachnagrostis* spp., *Glyceria australis, Rumex tenax, Persicaria prostrata, Eleocharis acuta, Epilobium* spp., *Centipeda* spp. and *Myriophyllum* spp.

No photo available.

Saltmarsh-grass Swamp EVC #A113

Description

Defining characteristics: Inundation-prone grassland of highly saline sites, dominated by Australian Saltmarsh-grass. Shallow intermittent saline lakes in parts of inland western Victoria, also extremely restricted occurrences in the Barwon River estuary and on wet saline flats in the Kerang area.

Indicator species: *Puccinellia perlaxa* or *Puccinellia stricta*, with associated species mostly at lower covers, variously including *Sarcocornia quinqueflora, Suaeda australis, Tecticornia pergranulata, Wilsonia rotundifolia, Senecio halophilus, Gahnia filum* and *Wilsonia humilis*.

An example of Saltmarsh-grass Swamp east of Edenhope, south-west Wimmera

Saltmarsh-grass Swamp at Second Reedy Lagoon during a prolonged dry phase near Kerang

A close up view of Saltmarsh-grass Swamp at Second Reedy Lagoon during a prolonged dry phase near Kerang

A close up view of Saltmarsh-grass Swamp at Second Reedy Lagoon during a prolonged dry phase

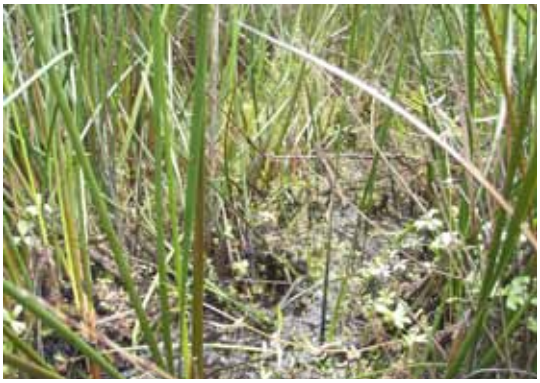
Sedge Wetland/Aquatic Herbland Complex EVC #A102

Description

Defining characteristics: Open sedgeland occurring in association with a well developed component of aquatic herbs. Apparently restricted distribution on west side of Grampians.

Indicator species: *Lepidosperma longitudinale, Baumea arthrophylla, Myriophyllum integrifolium* and *Villarsia* spp. Fringed by *Eucalyptus camaldulensis*.

An example of Sedge Wetland/Aquatic Herbland Complex near Casterton, south-western Victoria



A close up view of Sedge Wetland/Aquatic Herbland Complex near Casterton, south-western Victoria

Wet Saltmarsh Herbland EVC #A107

Description

Defining characteristics: Low herbland dominated by succulent to semi-succulent halophytic herbs or semi-shrubs, occupying low-lying areas of coastal saltmarsh subject to regular inundation. Widespread but confined to restricted areas of suitable habitat in sheltered parts of the Victorian coast.

Indicator species: Often very species-poor, most frequently dominated by *Sarcocornia quinqueflora*, less commonly by *Hemichroa pentandra, Selliera radicans, Samolus repens* or *Suaeda australis*, and on rare occasions *Triglochin striata*.

An example of Wet Saltmarsh Herbland in foreground

Wet Saltmarsh Herbland in foreground and Wet Saltmarsh Shrubland (wetland EVC A108) in background at Portarlington

A close up view of Wet Saltmarsh Herbland at Truganina Swamp, Altona

Wet Saltmarsh Shrubland EVC #A108

Description

Defining characteristics: Shrubland dominated by halophytic species and subject to regular tidal inundation. Scattered along Victorian coast, but largely confined to between Breamlea and Corner Inlet.

Indicator species: Often very species-poor, most frequently dominated by *Tecticornia arbuscula*, much less commonly by *Atriplex paludosa*, and rarely by *Atriplex cinerea*. *Sarcocornia quinqueflora* is also frequent in wetter sites with *T. arbuscula*, but less abundant in the slightly more elevated communities dominated by *Atriplex* spp., where *Distichlis distichophylla* becomes more prevalent.

An example of Wet Saltmarsh Shrubland

Wet Saltmarsh Shrubland in background and Coastal Hypersaline Saltmarsh (wetland EVC A111) in foreground at Point Wilson

Wet Saltmarsh Shrubland at the Barwon River Estuary

An example of Wet Saltmarsh Shrubland at Limeburners Bay, east of Geelong

Wet Heathland/Plains Grassy Wetland Complex EVC #A104

Description

Defining characteristics: Low shrubland dominated by sclerophyllous species, with a diverse grassy-herbaceous ground-layer including species shared with seasonal grassy wetlands of heavy soils on lowland plains. Extremely localised in far south-west Victoria.

Indicator species: *Melaleuca gibbosa, Leptospermum continentale, Amphibromus* spp., *Allittia cardiocarpa, Craspedia paludicola, Villarsia reniformis*.

No photo available.

Wet Heathland/Plains Sedgy Wetland Complex EVC #A105

Description

Defining characteristics: Low shrubland dominated by sclerophyllous species, with a sedgy ground-layer including herbaceous species shared with seasonal wetlands of heavy soils on lowland plains. Extremely localised in far south-west Victoria.

Indicator species: *Melaleuca gibbosa, Baumea arthrophylla, Villarsia reniformis, Allittia cardiocarpa, Craspedia paludicola, Senecio squarrosus.*

No photo available.

Index by wetland Ecological Vegetation Class number

Additional provisional Ecological Vegetation Classes in Victoria

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