



**Assessment of offsets for the EPBC Act listed
ecological community Natural Temperate Grassland
of the Victorian Volcanic Plain,
Lot 3 of TP318450H, Parish of Terrinallum**

Final Report

Prepared for Axcell Management Services

9 February 2015

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Cover Photo: Broad area of Natural Temperate Grassland within the proposed offset area. Photo by SGM November 2012

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Summary

Biosis Pty Ltd was engaged by Axxcel Management Services to undertake an assessment of vegetation within a section Tiverton, a pastoral property at 1316 Darlington - Nerrin Road, Dundonnell in western Victoria. The section assessed was part of Lot 3 of TP318450H within the Parish of Terrinallum (the study area). The objective of the assessment was to determine:

- the extent of the EPBC Act listed ecological community Natural Temperate Grassland of the Victorian Volcanic Plain (NTGWVP)
- the general condition of the community where present.
- The extent and cover of high threat weed species on site for management.

The goal of the assessment was to locate 50 ha of NTGWVP so it could be used as an offset under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The study area contains the required area of the listed community. The vegetation comprising the listed community fits within the Ecological Vegetation Classes (EVC) Plains Grassland (21.26 ha) dominated by the perennial grasses wallaby grasses *Rytidosperma* spp. and spear grasses *Austrostipa* spp. and Plains Grassy Wetland (28.78 ha) dominated by the perennial grass Common Tussock-grass *Poa labillardierei*. The results from the current assessment indicate that the patches of Plains Grassland would meet the requirements of the listed community the majority of the year and under a range of varying seasonal conditions.

A total of 197 flora species have been recorded within the offset area including 126 native species and 71 weed species. The native species include seven state listed species and one nationally listed species.

The EVCs are in moderate condition according to state benchmark standards.

1. Introduction

1.1 Project background

Biosis Pty Ltd was engaged by Axxcel Management Services to undertake an assessment of vegetation within a section of Tiverton, a pastoral property at 1316 Darlington - Nerrin Road, Dundonnell in western Victoria. The section assessed was part of Lot 3 of TP318450H within the Parish of Terrinallum (the study area). The objective of the assessment was to determine:

- the extent of the EPBC Act listed ecological community Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)
- the general condition of the community where present.
- The extent and cover of high threat weed species on site for management.

The goal of the assessment was to locate 50 ha of NTGVVP so it could be used as an offset under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (MNES) protected under the Act. Link for further information including a guide to the referral process is available at: <http://www.environment.gov.au/epbc/index.html>

Environmental offset policy (DSEWPaC 2012) under the EPBC Act describes criteria for meeting offset requirements where there are approved residual impacts to MNES.

Biosis undertook an assessment of the site in November 2012 to review existing vegetation mapping conducted by the Department of Sustainability and Environment (now the Department of Environment, Land, Water and Planning) as part of BushBroker, and made variations to this mapping where appropriate. That assessment resulted in mapping of several areas of native vegetation and the locations recorded for three state listed (DEPI 2013a), rare or threatened species Pale Crane's-bill *Geranium* sp. 3, Plains Yam-daisy *Microseris scapigera* and Salt-lake tussock-grass *Poa sallacustris*. The latter is also vulnerable listed under the EPBC Act.

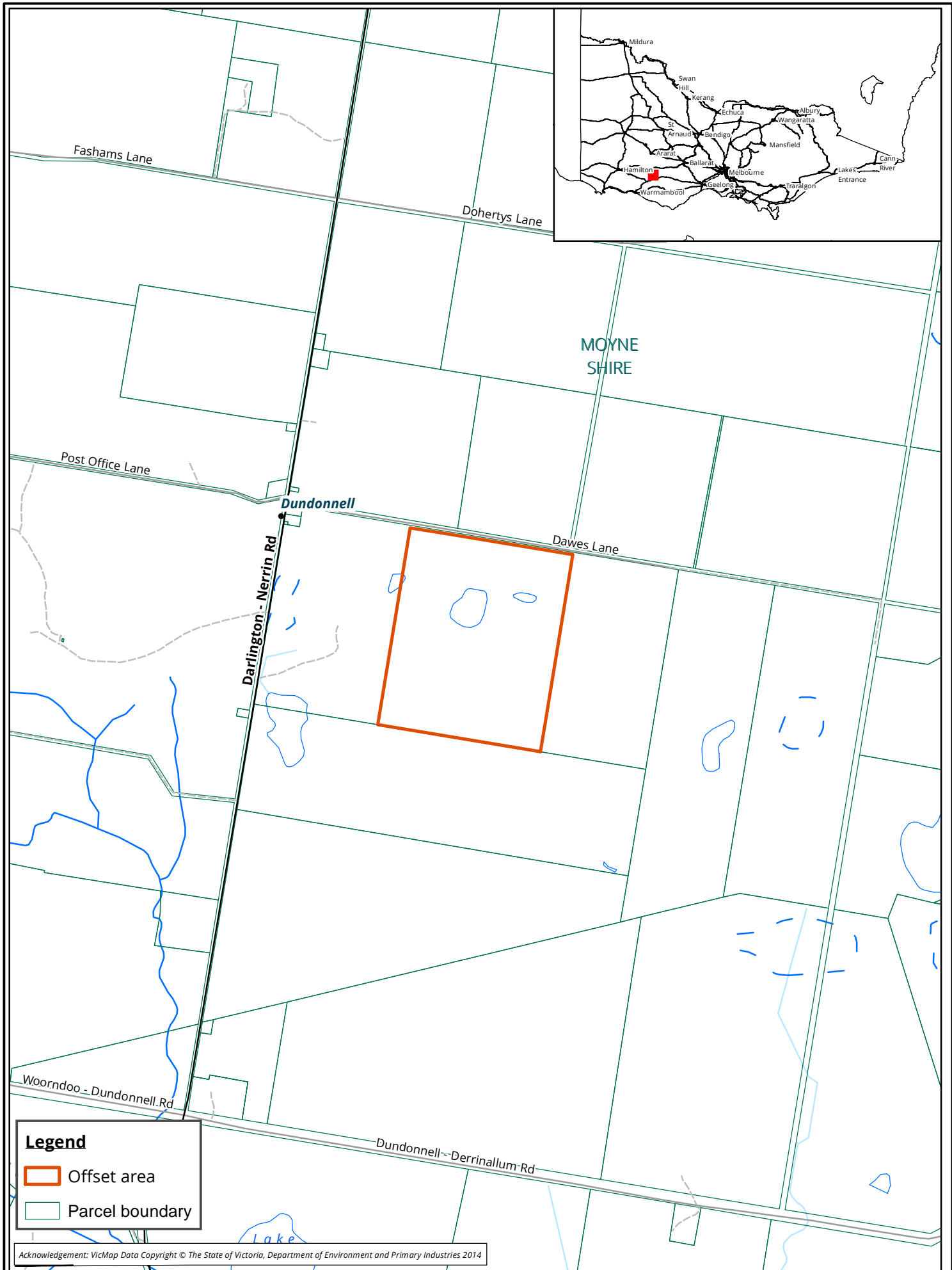
1.2 Location of the study area

The study area is located approximately 50 km northwest of Colac and approximately 180 km west of the Melbourne central business district (Figure 1).

The study area is located in western Victoria just west of Dundonnell, approximately 22 km south west of Lake Bolac and 180 km west of Melbourne (Figure 1).

The study area is within the:

- Victorian Volcanic Plain Bioregion
- Hopkins River Basin
- Management area of the Glenelg Hopkins CMA
- Moyne Shire.



Acknowledgement: VicMap Data Copyright © The State of Victoria, Department of Environment and Primary Industries 2014

Figure 1: Location of the offset area, Dawes Lane, Dundonnell, Victoria

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 Date: 12 February 2015,
 Checked by: [Cons.], Drawn by: [GIS], Last edited by: smitchell
 Location: P:\19000s\19051\Mapping\

2. Methods

2.1 Literature and database review

In order to provide a context for the study site, information about flora and fauna from within 5 km of the study area (the 'local area') was obtained from relevant public databases. Records from the following databases were collated and reviewed:

- Flora Information System which includes records from the Victorian Biodiversity Atlas 'VBA_FLORA25, FLORA100 & FLORA Restricted' August 2012 © The State of Victoria, Department of Environment and Primary Industries (DEPI). The contribution of the Royal Botanical Gardens Melbourne to the database is acknowledged.
- Victorian Biodiversity Atlas 'VBA_FAUNA25, FAUNA100 & FAUNA Restricted' August 2012 © The State of Victoria (DEPI 2013)
- DEPI Biodiversity Interactive Map (BIM)
- Protected Matters Search Tool of the Australian Government Department of the Environment for matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

Other sources of biodiversity information:

- DEPI Native Vegetation Information Management (NVIM) system and Biodiversity Interactive Mapper (BIM)
- Biosis (2012). Flora and Habitat Hectare Assessment for southern sections of Tiverton, Dundonnell, Victoria. Report for Axxcel Management Services. Author: Steve Mueck. Biosis Pty Ltd, Melbourne

2.2 Definitions of significance

2.2.1 Species and ecological communities

The significance of a species or community is determined by its listing as rare or threatened under Commonwealth or State legislation / policy. The sources used to categorise significance of species and communities in this report are summarised below in Table 1.

Table 1: Criteria for determining significance of species & ecological communities

Significance	
National	Listed as threatened (critically endangered, endangered, vulnerable or conservation dependent) under the Environment Protection and Biodiversity Conservation Act 1999
State	Listed as threatened (critically endangered, endangered, vulnerable) or rare for flora species, in Victoria on a DEPI Advisory List (DEPI 2013a) Listed as threatened under the Flora and Fauna Guarantee Act 1988

2.3 Site investigation

2.3.1 Flora assessment

The study area was assessed on foot on 17 and 18 December 2014 and a list of flora species was collected. Species information from previous surveys was reviewed and incorporated into the results of the current assessment. A standard GPS was used to track boundaries of grassland vegetation which met definition criteria of the listed community. These data were then used with aerial photograph interpretation to digitise polygons of the listed community at 1:1000 scale. Mapping was undertaken using GDA94.

In the advice to the Minister for the Environment, Heritage and the Arts from the Threatened Species Scientific Committee on Amendment to the list of Threatened Ecological Communities under the EPBC 1999 (TSSC 2008), *the listed Natural Temperate Grassland of the Victorian Volcanic Plain ecological community comprises those patches that meet the key diagnostic characteristics, above, and the condition thresholds, below, for better quality sites of the ecological community.*

- *The total perennial tussock cover represented by the native grass genera Themeda, Austrodanthonia, Austrostipa or Poa is at least 50%;*
OR
- *If the total perennial tussock cover represented by the above 4 native grass genera is less than 50%, then the ground cover of native forbs (wildflowers) is at least 50% of total vegetation cover during spring-summer (September to February);*
OR
- *The cover of non-grass weeds is less than 30% of total vegetation cover at any time of the year.*

Areas of grassland which met either of the above definitions was mapped.

Remnant patch vegetation is classified into ecological vegetation classes (EVCs). An EVC contains one or more floristic (plant) communities, and represents a grouping of broadly similar environments. Definitions of EVCs and benchmarks (condition against which vegetation quality at the site can be compared) are determined by DEPI. Areas of uniform quality for each EVC within the patches are termed 'habitat zones' and are assessed separately. The condition score of the habitat zone is multiplied by the extent of the zone to give a value in Habitat hectares.

The state Biodiversity Assessment Guidelines classify remnant patch native vegetation as follows (DEPI 2013b):

- A **remnant patch** of native vegetation (measured in hectares) is either:
 - An area of native vegetation, with or without trees, where at least 25 percent of the total perennial understorey cover is native plants.
 - An area with three or more indigenous canopy trees where the tree canopy cover is at least 20 percent.

Definition for EVC patches and the EPBC Act grassland community are not aligned, however all areas of native vegetation mapped for the current assessment fit both definitions.

The condition assessment allows quality to be determined when assessing EPBC Act offset requirements. However, the quality assessment assesses condition against a benchmark for the EVCs and not directly the listed community. This approach is routinely used for determining condition of EPBC Act listed communities within Victoria.

2.3.2 Permits

Biosis undertakes flora and fauna assessments under the following permits and approvals:

- Research Permit/Management Authorisation and Permit to Take Protected Flora & Protected Fish issued by the Department of Environment and Primary Industries under the *Wildlife Act 1975*, *Flora and Fauna Guarantee Act 1988* and *National Parks Act 1975* (Permit number 10006240, expiry date 9 May 2015)

2.4 Qualifications

Ecological surveys provide a sampling of flora and fauna at a given time and season. There are a number of reasons why not all species will be detected at a site during survey, such as low abundance, patchy distribution, species dormancy, seasonal conditions, and migration and breeding behaviours. In many cases these factors do not present a significant limitation to assessing the overall biodiversity values of a site. At the time of the site assessment, there had been generally poor rainfall during the previous winter and spring. This meant that deeper wetland communities were dry and seasonal plants expected to be found within the study area were largely absent. These conditions did not prevent the objectives of the assessment being achieved.

2.5 Legislation and policy

The implications for the project were assessed in relation to key biodiversity legislation and policy including:

- Matters listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), associated policy statements, significant impacts guidelines, listing advice and key threatening processes.
- *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offset Policy.

2.6 Mapping

Mapping was conducted using hand-held (uncorrected) GPS units (WGS84) and aerial photo interpretation. The accuracy of this mapping is therefore subject to the accuracy of the GPS units (generally ± 7 metres) and dependent on the limitations of aerial photo rectification and registration.

Mapping has been produced using a Geographic Information System (GIS). Electronic GIS files which contain our flora and fauna spatial data are available to incorporate into design concept plans. However this mapping may not be sufficiently precise for detailed design purposes.

3. Results

3.1 Flora species recorded

A total of 197 flora species have been recorded within the offset area including 126 native species and 72 weed species (Appendix 1). The native species include seven state listed species and one nationally listed species.

3.2 Natural Temperate Grassland of the Victorian Volcanic Plain

A total of 50 ha of the listed community was mapped within the offset area shown in Figure 2. Part of the area of the community fits within the Ecological Vegetation Class (EVC) Plains Grassland (ECV 132) (21.26 ha) and has wallaby grasses *Rytidosperma* spp. (*Austrodanthonia*) and spear grasses *Austrostipa* spp. as the dominant perennial grasses. The other community is classified as Plains Grassy Wetland (EVC 125) (28.78 ha) and has Common Tussock-grass *Poa labillardierei* as the dominant perennial grass. The two representative EVCs are shown on Figure 2. Where the cover of perennial grasses within Plains Grassland was less than 50%, the criteria for the listed community was otherwise met on the basis of having <30% cover of non-grass weeds. The composition of flora within each area of mapped native vegetation is consistent with the key diagnostic characteristics of the EPBC Act listed community.

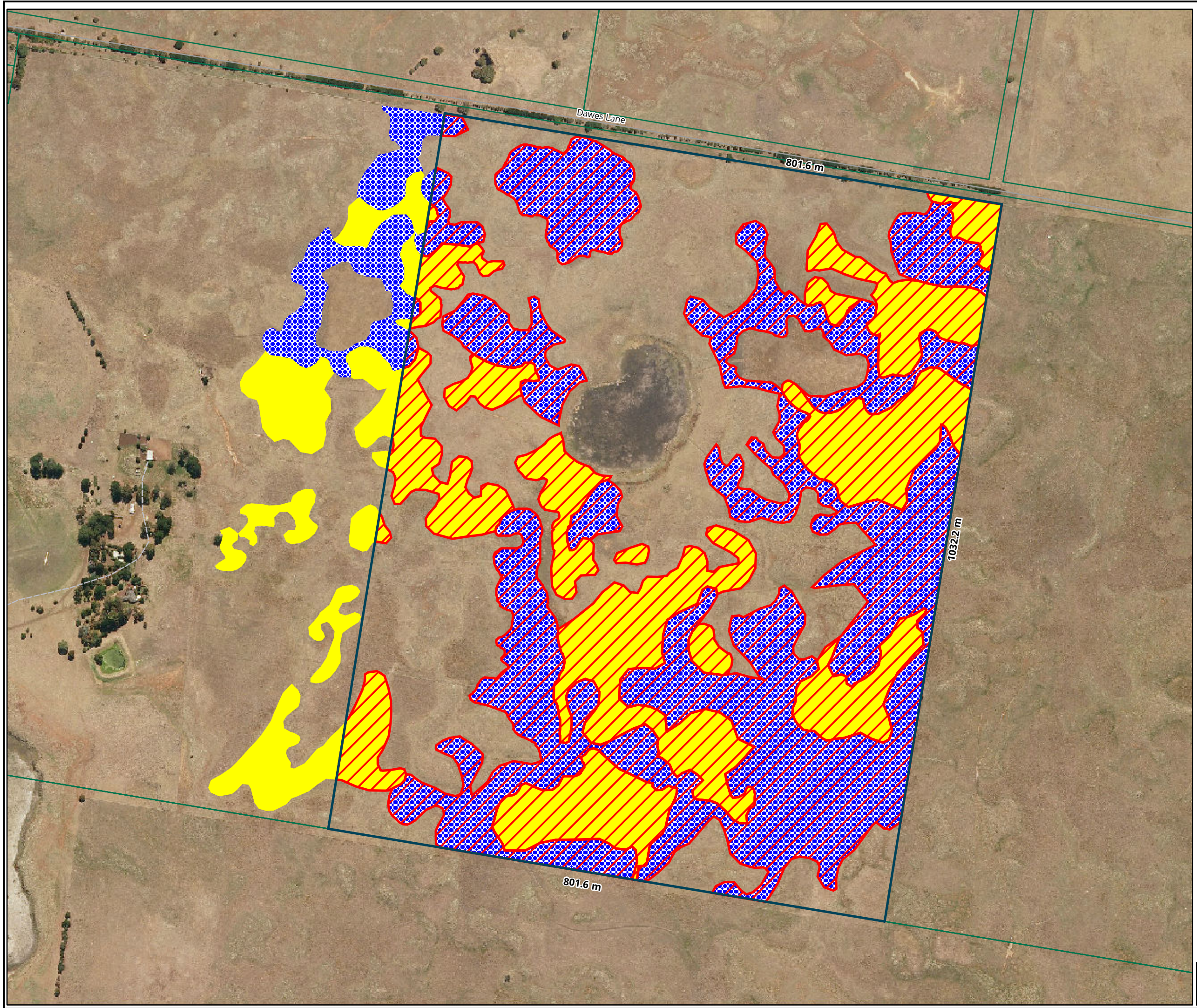
Within Plains Grassland patches, there are a suite of annual grasses that are dominant under certain conditions. At the time of the current assessment there was moderate cover of annual grasses over most of the patches. While these species may provide a dominant component of the plant biomass within the community, their relative cover does not influence the presence of the listed community on their own. Current management practices involve the control of some broad-leaf weeds and woody weed species. Consequently these weeds have very low cover on average across the study area which contributed significantly to the persistence of the listed community. The results from the current assessment indicate that the patches of Plains Grassland would meet the requirements of the listed community the majority of the year and under a range of varying seasonal conditions. Fluctuation in the cover and abundance of native species and weed species is considered accordingly in delineating polygons in Figure 2. The dynamic nature of these grassland communities is recognised in the listing advice (DSEWPaC 2012).

Areas mapped as Plains Grassy Wetland have sufficient cover of Common Tussock-grass to meet the definition requirements of the listed community. These areas are more prone to broad leaf weed infestation although the relative cover of these species is seldom given consideration as there is a sufficient cover of native forbs and perennial tussock grasses within the required seasonal assessment period.

3.3 Habitat hectares

It was determined that each EVC represented only one habitat zone each on the basis that the vegetation lies within the same management area (paddock) and that the dry conditions leading up to the assessment resulted in relatively uniform cover and composition of plant species within each EVC.

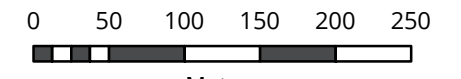
Both EVCs can be considered in moderate condition at the time of the assessment (Table 2). There is potential for improvement in the understorey score with an assessment following more favourable rainfall. Recruitment and Lack of Weed components may be improved with ongoing management directed at weed control and the promotion of other grassland species which are currently sparsely distributed within the property.



Legend

- Natural Temperate Grassland of the Victorian Volcanic Plain
- Ecological Vegetation Class
- 125 Plains Grassy Wetland
- 132 Plains Grassland
- Offset area

Figure 2: Natural Temperate Grassland of the Victorian Volcanic Plain - offsets



Scale: 1:5,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 54



Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

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 Date: 12 February 2015,
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 Location: P:\19000s\19051\Mapping\19051_F2_Offsets

When considering seasonal variation which is observed in both EVCs, it can be considered that the listed community on average has a condition between 0.4–0.6 depending on the time of year. Ongoing management which favours biodiversity conservation may increase the condition of the vegetation over time.

Table 2. Condition of native vegetation within areas containing the EPBC Act listed grassland community.

Site ID		1	2		
Habitat Zone ID		A	A		
EVC #: Name		Plains Grassland	Plains Grassy Wetland		
		Max Score	Score	Score	Total
Site Condition	Large Old Trees	10	Not Applicable	Not Applicable	
	Canopy Cover	5	Not Applicable	Not Applicable	
	Lack of Weeds	15	4	7	
	Understorey	25	15	15	
	Recruitment	10	6	6	
	Organic Matter	5	2	3	
	Logs	5	Not Applicable	Not Applicable	
	Standardiser 1.36			24	33
Total Site Score			38	42	
Landscape Value	Patch Size	10	8	8	
	Neighbourhood	10	5	5	
	Distance to Core	5	4	4	
	Total Landscape Score			17	17
HABITAT SCORE		100	55	59	
Habitat points = #/100		1	0.55	0.59	
Habitat Zone area (ha)			21.26	28.78	50.04

3.4 Weed distribution

At the time of this assessment, annual grasses provided the highest contribution to total weed cover across the study area. Some patches comprised high cover of annual grasses although these species were not consistently spread across all parts of the study area. The most abundant and high cover species were Soft Brome *Bromus hordeaceus*, Squirrel-tail Fescue *Vulpia bromoides*, Bearded Oat *Avena barbata*, Mediterranean Barley-grass *Hordeum hystris*, Large Quaking-grass *Briza maxima* and Wimmera Rye-grass *Lolium rigidum*.

Perennial grasses had most cover in lower lying areas of Plains Grassy Wetland. In these areas, Toowoomba Canary-grass *Phalaris aquatica* and Perennial Rye-grass *Lolium perenne* were common although their relative cover is generally low due to competition with the native species Common Tussock-grass.

The cover of broadleaf weeds is relatively low considering the history of land use. Some management of these weeds is already undertaken. Species including Horehound *Marrubium vulgare*, Hairy Hawkbit *Leontodon taraxacoides*, Flatweed *Hypochaeris radicata*, Big Heron's-bill *Erodium botrys*, Spear Thistle *Cirsium vulgare* and Slender Thistle *Carduus pycnocephalus* were observed scattered in most areas.

Woody weeds are scarce within the study area. African Box-thorn *Lycium ferocissimum* is scattered on some fence lines and on rock outcrop areas although these are mostly < 1 m tall.

Estimate of the cover of weeds are provided in Appendix 1.

Estimated total site covers of weed lifeform groups:

- Annual grasses – 20%
- Perennial grasses – 5%
- Broadleaf weeds – 5%
- Other weeds 1%

References

Biosis (2012). Flora and Habitat Hectare Assessment for southern sections of Tiverton, Dundonnell, Victoria. Report for Axxcel Management Services. Author: Steve Mueck. Biosis Pty Ltd, Melbourne

DEPI 2013a. *Advisory List of Rare or Threatened Plants in Victoria – 2013*. Victorian Government Department of Sustainability & Environment, East Melbourne.

DEPI 2013c. *Permitted clearing of native vegetation - Biodiversity assessment guidelines*. Victorian Government Department of Environment and Primary Industries, Melbourne (September 2013).

DEPI 2013b. Victorian Biodiversity Atlas 'VBA_FAUNA25, FAUNA100 & FAUNARestricted, FLORA25, FLORA100 & FLORARestricted' August 2010 © The State of Victoria. Victorian Government Department of Sustainability & Environment, Melbourne.

Appendices

Appendix 1: Flora

Notes to tables:

EPBC Act: CR - Critically Endangered EN - Endangered VU - Vulnerable PMST – Protected Matters Search Tool	DSE 2005: e - endangered v - vulnerable r - rare
FFG Act: L - listed as threatened under FFG Act	# - Native species outside natural range

Appendix 1 Flora species recorded from the study area

Table A.1. Flora species recorded from the study area.

FFG	EPBC	VROTS	Origin	Total % cover (weeds)	Scientific Name	Common Name
					<i>Acaena agnipila</i>	Hairy Sheep's Burr
					<i>Acaena echinata</i>	Sheep's Burr
			*	<1	<i>Acetosella vulgaris</i>	Sheep Sorrel
			*	<1	<i>Agrostis capillaris</i>	Browntop Bent
			*	<1	<i>Aira cupaniana</i>	Quicksilver Grass
			*	<1	<i>Aira elegantissima</i>	Delicate Hair-grass
			*	2	<i>Alopecurus pratensis</i>	Meadow Fox-tail
					<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
					<i>Anthosachne scabra</i>	Common Wheat-grass
					<i>Apium annuum</i>	Annual Celery
			*	<1	<i>Arctotheca calendula</i>	Cape Weed
					<i>Arthropodium milleflorum</i>	Pale Vanilla-lily
					<i>Arthropodium minus</i>	Small Vanilla-lily
					<i>Arthropodium strictum</i>	Chocolate Lily

FFG	EPBC	VROTS	Origin	Total % cover (weeds)	Scientific Name	Common Name
					<i>Asperula conferta</i>	Common Woodruff
		r			<i>Asperula wimmerana</i>	Wimmera Woodruff
					<i>Asplenium flabellifolium</i>	Necklace Fern
					<i>Austrostipa bigeniculata</i>	Kneed Spear-grass
					<i>Austrostipa flavescens</i>	Coast Spear-grass
					<i>Austrostipa mollis</i>	Supple Spear-grass
					<i>Austrostipa nodosa</i>	Knotty Spear-grass
					<i>Austrostipa scabra</i> subsp. <i>scabra</i>	Rough Spear-grass
					<i>Austrostipa semibarbata</i>	Fibrous Spear-grass
			*	2	<i>Avena barbata</i>	Bearded Oat
					<i>Azolla filiculoides</i>	Pacific Azolla
					<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
			*	2	<i>Briza maxima</i>	Large Quaking-grass
			*	<1	<i>Briza minor</i>	Lesser Quaking-grass
			*	<1	<i>Bromus diandrus</i>	Great Brome
			*	10	<i>Bromus hordeaceus</i> subsp. <i>hordeaceus</i>	Soft Brome
					<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	Sweet Bursaria
					<i>Calocephalus citreus</i>	Lemon Beauty-heads
			*	<1	<i>Carduus pycnocephalus</i>	Slender Thistle
					<i>Carex bichenoviana</i>	Plains Sedge
					<i>Carex inversa</i>	Knob Sedge
			*	<1	<i>Cerastium glomeratum</i>	Sticky Mouse-ear Chickweed
					<i>Chenopodium</i> spp.	Goosefoot
					<i>Chrysocephalum apiculatum</i>	Common Everlasting
			*	<1	<i>Cicendia quadrangularis</i>	Square Cicendia
			*		<i>Cirsium vulgare</i>	Spear Thistle

FFG	EPBC	VROTS	Origin	Total % cover (weeds)	Scientific Name	Common Name
					<i>Convolvulus angustissimus</i> subsp. <i>angustissimus</i>	Blushing Bindweed
		k			<i>Convolvulus angustissimus</i> subsp. <i>omnigracilis</i>	Slender Bindweed
			*	<1	<i>Conyza bonariensis</i>	Flaxleaf Fleabane
		v			<i>Coronidium gunnianum</i>	Pale Swamp Everlasting
					<i>Cotula australis</i>	Common Cotula
			*	<1	<i>Cotula bipinnata</i>	Ferny Cotula
			*	<1	<i>Cotula coronopifolia</i>	Water Buttons
					<i>Cotula vulgaris</i> var. <i>australasica</i>	Slender Cotula
					<i>Craspedia paludicola</i>	Swamp Billy-buttons
					<i>Crassula decumbens</i> var. <i>decumbens</i>	Spreading Crassula
			*	<1	<i>Crassula natans</i> var. <i>minus</i>	Water Crassula
					<i>Crassula sieberiana</i>	Sieber Crassula
					<i>Cynoglossum suaveolens</i>	Sweet Hound's-tongue
			*	1	<i>Cynosurus echinatus</i>	Rough Dog's-tail
					<i>Dichondra repens</i>	Kidney-weed
					<i>Distichlis distichophylla</i>	Australian Salt-grass
					<i>Drosera hookeri</i>	Branched Sundew
					<i>Einadia nutans</i>	Nodding Saltbush
					<i>Eleocharis acuta</i>	Common Spike-sedge
					<i>Eleocharis pusilla</i>	Small Spike-sedge
					<i>Epilobium billardierianum</i>	Variable Willow-herb
					<i>Epilobium hirtigerum</i>	Hairy Willow-herb
					<i>Eragrostis brownii</i>	Common Love-grass
					<i>Eragrostis infecunda</i>	Southern Cane-grass
			*	<1	<i>Erodium botrys</i>	Big Heron's-bill

FFG	EPBC	VROTS	Origin	Total % cover (weeds)	Scientific Name	Common Name
					<i>Eryngium ovinum</i>	Blue Devil
					<i>Eryngium vesiculosum</i>	Prickfoot
					<i>Euchiton involucratus</i>	Star Cudweed
					<i>Galium gaudichaudii</i>	Rough Bedstraw
			*	<1	<i>Galium murale</i>	Small Goosegrass
					<i>Geranium homeanum</i>	Rainforest Crane's-bill
					<i>Geranium retrorsum</i>	Grassland Crane's-bill
		r			<i>Geranium</i> sp. 3	Pale-flower Crane's-bill
					<i>Glyceria australis</i>	Australian Sweet-grass
					<i>Glycine clandestina</i>	Twining Glycine
					<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
					<i>Haloragis heterophylla</i>	Varied Raspwort
			*	1	<i>Helminthotheca echioides</i>	Ox-tongue
			*	<1	<i>Holcus lanatus</i>	Yorkshire Fog
			*	2	<i>Hordeum hystrix</i>	Mediterranean Barley-grass
					<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
					<i>Hypericum gramineum</i> spp. agg.	Small St John's Wort
			*	1	<i>Hypochaeris radicata</i>	Flatweed
					<i>Isolepis cernua</i> var. <i>platycarpa</i>	Broad-fruit Club-sedge
			*	<1	<i>Isolepis levynsiana</i>	Tiny Flat-sedge
					<i>Isotoma fluviatilis</i> subsp. <i>australis</i>	Swamp Isotome
					<i>Juncus amabilis</i>	Hollow Rush
					<i>Juncus australis</i>	Austral Rush
					<i>Juncus bufonius</i>	Toad Rush
			*	<1	<i>Juncus capitatus</i>	Capitate Rush
					<i>Juncus flavidus</i>	Gold Rush

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					<i>Juncus holoschoenus</i>	Joint-leaf Rush
		r			<i>Juncus revolutus</i>	Creeping Rush
					<i>Juncus subsecundus</i>	Finger Rush
					<i>Kennedia prostrata</i>	Running Postman
					<i>Lachnagrostis aemula</i>	Leafy Blown-grass
					<i>Lachnagrostis filiformis</i>	Common Blown-grass
			*	<1	<i>Lactuca serriola</i>	Prickly Lettuce
			*	1	<i>Leontodon taraxacoides</i> subsp. <i>taraxacoides</i>	Hairy Hawkbit
					<i>Lepilaena cylindrocarpa</i>	Long-fruit Water-mat
					<i>Leptorhynchos squamatus</i>	Scaly Buttons
					<i>Lilaeopsis polyantha</i>	Australian Lilaeopsis
					<i>Limosella australis</i>	Austral Mudwort
					<i>Lobelia irrigua</i>	Salt Pratia
					<i>Lobelia pratioides</i>	Poison Lobelia
			*	2	<i>Lolium perenne</i>	Perennial Rye-grass
			*	2	<i>Lolium rigidum</i>	Wimmera Rye-grass
			*	<1	<i>Lycium ferocissimum</i>	African Box-thorn
			*	<1	<i>Lysimachia arvensis</i>	Scarlet Pimpernel
					<i>Lythrum hyssopifolia</i>	Small Loosestrife
			*	<1	<i>Malva nicaeensis</i>	Mallow of Nice
			*	<1	<i>Marrubium vulgare</i>	Horehound
			*	<1	<i>Medicago polymorpha</i>	Burr Medic
			*	<1	<i>Medicago sativa</i> subsp. <i>sativa</i>	Lucerne
					<i>Melicytus</i> sp. aff. <i>dentatus</i> (Volcanic Plain)	Tangled Shrub-violet
			*	<1	<i>Melilotus indicus</i>	Sweet Melilot
					<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

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		v			<i>Microseris scapigera</i>	Plains Yam-daisy
					<i>Microtis unifolia</i>	Common Onion-orchid
			*	<1	<i>Moenchia erecta</i>	Erect Chickweed
					<i>Montia australasica</i>	White Purslane
					<i>Montia australasica</i>	White Purslane
					<i>Myriophyllum muelleri</i>	Hooded Water-milfoil
					<i>Oxalis perennans</i>	Grassland Wood-sorrel
			*	<1	<i>Parapholis incurva</i>	Coast Barb-grass
			*	<1	<i>Parentucellia latifolia</i>	Red Bartsia
			*	<1	<i>Parentucellia viscosa</i>	Yellow Bartsia
					<i>Parietaria debilis</i> s.s.	Shade Pellitory
					<i>Pentapogon quadrifidus</i> var. <i>quadrifidus</i>	Five-awned Spear-grass
					<i>Persicaria prostrata</i>	Creeping Knotweed
			*	<1	<i>Petrorhagia nanteuilii</i>	Childling Pink
			*	1	<i>Phalaris aquatica</i>	Toowoomba Canary-grass
			*	<1	<i>Phalaris minor</i>	Lesser Canary-grass
			*	1	<i>Plantago coronopus</i>	Buck's-horn Plantain
					<i>Plantago varia</i>	Variable Plantain
					<i>Poa labillardierei</i> var. <i>labillardierei</i>	Common Tussock-grass
					<i>Poa rodwayi</i>	Velvet Tussock-grass
f	V	v			<i>Poa sallacustris</i>	Salt-lake Tussock-grass
			*	<1	<i>Polycarpon tetraphyllum</i>	Four-leaved Allseed
			*	<1	<i>Polypogon maritimus</i> var. <i>subspathaceus</i>	Coast Beard-grass
			*	1	<i>Polypogon monspeliensis</i>	Annual Beard-grass
					<i>Ptilotus spathulatus</i>	Pussy Tails
			*	<1	<i>Puccinellia fasciculata</i>	Borrer's Saltmarsh-grass

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					<i>Puccinellia perlaxa</i>	Plains Saltmarsh-grass
					<i>Ranunculus amphitrichus</i>	Small River Buttercup
					<i>Ranunculus inundatus</i>	River Buttercup
			*	<1	<i>Ranunculus muricatus</i>	Sharp Buttercup
					<i>Ranunculus pumilio</i>	Ferny Small-flower Buttercup
			*	<1	<i>Ranunculus trilobus</i>	Large Annual Buttercup
			*		<i>Romulea rosea</i>	Onion Grass
					<i>Rumex brownii</i>	Slender Dock
			*	<1	<i>Rumex conglomeratus</i>	Clustered Dock
			*	1	<i>Rumex crispus</i>	Curled Dock
					<i>Rumex dumosus</i>	Wiry Dock
					<i>Ruppia megacarpa</i>	Large-fruit Tassel
					<i>Rytidosperma caespitosum</i>	Common Wallaby-grass
					<i>Rytidosperma duttonianum</i>	Brown-back Wallaby-grass
					<i>Rytidosperma erianthum</i>	Hill Wallaby-grass
					<i>Rytidosperma fulvum</i>	Copper-awned Wallaby-grass
					<i>Rytidosperma geniculatum</i>	Kneed Wallaby-grass
					<i>Rytidosperma laeve</i>	Smooth Wallaby-grass
					<i>Rytidosperma setaceum</i>	Bristly Wallaby-grass
			*	<1	<i>Sagina procumbens</i>	Spreading Pearlwort
			*	<1	<i>Salvia verbenaca</i>	Wild Sage
					<i>Schoenus apogon</i>	Common Bog-sedge
					<i>Schoenus nitens</i>	Shiny Bog-sedge
					<i>Sebaea albidiflora</i>	White Sebaea
					<i>Sebaea ovata</i>	Yellow Sebaea
					<i>Senecio pinnatifolius</i> var. <i>lanceolatus</i>	Lance-leaf Groundsel

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			*	<1	<i>Sherardia arvensis</i>	Field Madder
			*	<1	<i>Silybum marianum</i>	Variegated Thistle
			*	<1	<i>Sonchus asper</i>	Rough Sow-thistle
			*	1	<i>Sonchus oleraceus</i>	Common Sow-thistle
					<i>Spergularia marina</i>	Lesser Sea-spurrey
					<i>Stellaria angustifolia</i>	Swamp Starwort
					<i>Stuckenia pectinata</i>	Fennel Pondweed
			*	<1	<i>Taraxacum officinale</i> spp. agg.	Garden Dandelion
					<i>Themeda triandra</i>	Kangaroo Grass
					<i>Tortula antarctica</i>	Bristly Screw-moss
			*	<1	<i>Trifolium campestre</i> var. <i>campestre</i>	Hop Clover
			*	<1	<i>Trifolium dubium</i>	Suckling Clover
			*	<1	<i>Trifolium fragiferum</i> var. <i>fragiferum</i>	Strawberry Clover
			*	1	<i>Trifolium glomeratum</i>	Cluster Clover
			*	<1	<i>Trifolium pratense</i>	Red Clover
			*	1	<i>Trifolium repens</i> var. <i>repens</i>	White Clover
			*	<1	<i>Trifolium striatum</i>	Knotted Clover
			*	<1	<i>Trifolium subterraneum</i>	Subterranean Clover
					<i>Triglochin procera</i>	Common Water-ribbons
					<i>Triglochin striata</i>	Streaked Arrowgrass
					<i>Triquetrella papillata</i>	Common Twine-moss
			*	<1	<i>Triticum aestivum</i>	Wheat
			*	2	<i>Vulpia bromoides</i>	Squirrel-tail Fescue
					<i>Wahlenbergia communis</i>	Tufted Bluebell
					<i>Wahlenbergia gracilis</i>	Sprawling Bluebell
					<i>Wahlenbergia luteola</i>	Bronze Bluebell

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					<i>Wahlenbergia multicaulis</i>	Branching Bluebell
					<i>Wahlenbergia</i> spp.	Bluebell
					<i>Walwhalleya proluta</i>	Rigid Panic
					<i>Wilsonia rotundifolia</i>	Round-leaf Wilsonia