A wide-angle photograph of a grassy field under a blue sky with scattered white clouds. The field is filled with green and yellow grasses, and some grey rocks are visible. In the distance, a line of trees marks the horizon.

Ajax Road Industrial Subdivision:  
Offset Management Plan for part of Lot 3 of  
Subdivision TP318450H within Tiverton,  
1316 Darlington - Nerrin Road, Dundonnell

Final Plan

Prepared for Tiverton Property Partnering

14 April 2015

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### Alliance Offset Plan

Planning Permit Number (ID): PA1430329 (Hobsons Bay Planning Scheme)

Proponent: Axxcel Management Services

Address:

### Landowner and Permit Holder Statement

#### Permit Holder

Print Name:

Signature:

Date: 2015

#### Landowner of Offset Site(s)

Print Name: Tiverton Property Partnering Pty Ltd

Signature:

Date: / /2015

#### Referral Authority Statement

The native vegetation credits described in this plan provide an offset for the removal of native vegetation specified in this plan to the satisfaction of the Department of Sustainability and Environment.

Print Name:

Position:

Department of Environment, Land, Water and Planning

Date: / /2015

#### Referral Authority Statement

The Natural Temperate Grassland of the Victorian Volcanic Plain described in this plan provides an offset for the removal of this Matter of National Environmental Significance specified in this plan to the satisfaction of the Department of the Environment (DoE).

Print Name:

Position:

Department of the Environment

Date: / /2015

#### Responsible Authority Approval

This Offset Plan has been approved by City of Hobsons Bay. This Offset Plan is now endorsed and forms part of Planning Permit No: PA1430329

Print Name:

Position:

Responsible Authority: City of Hobsons Bay

Signature:

Date: / / 2015

**Date of Commencement:**

No modification variation or amendment of this Offset Plan agreed upon by the parties shall be of any force or effect unless such modification, variation or amendment is in writing and has been executed by all parties.

This plan comes into effect as of \_\_\_\_\_ 2015.

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## Summary

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Biosis Pty. Ltd. was commissioned by Tiverton Property Partnering to prepare an Offset Management Plan (OMP) for 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 offset area). The property is currently owned by Tiverton Property Partnering Pty Ltd.

The offset area meets the quantity and quality requirements for an offset of **47.125 ha** of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) as prescribed by Department of the Environment (DoE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and in association with referral 2014/7208.

Specifically this plan addresses the approval under the EPBC Act for the industrial and commercial development at Lot H Ajax Road Altona as outlined under referral 2014/7208. Under the conditions of approval, Condition X is relevant to the offsets provided. This condition reads as follows:

**Copy of the relevant EPBC Act approval condition to be inserted**

The conditions provided under this approval and the relevant sections of this plan that address these conditions are outlined in **Table A** below.

This OMP requires that some land use rights are relinquished and that management actions have the primary objective aimed at the conservation and improvement of defined areas of NTGVVP. The management outline in this plan considers key management issues identified for this EPBC Act listed community.

**Table A:** Condition of approval under Referral 2014/7208 and relevant sections of the plan that address these conditions

Condition	Relevant Section of this OMP
	Section 1.2 and the OMP as a whole
	Section 2.4.1
	Section 2.4.1 and Figure 5
	Section 2.4 and Figure 3 and 4
	Section 3.6 and Table 12
	See below, Sections 3.3, 3.4 and 3.5
	Section 3.7 and 3.8
	Section 2.2, Table 5 and Appendix 4

The offset area will be protected by an agreement under Section 173 of the *Planning and Environment Act 1988* with the Moyne Shire council (MSC).

This OMP details the management actions to achieve the habitat improvement gains required over a ten year period. Gains generated by the protection and management of the offset area are summarised in the table below. These are described in more detail throughout the OMP.

The responsibility of vegetation management works lies with the offset land owner with assistance from MSC.

The land owner will report annually over the initial 10 year management period to MSC regarding the progress of management works and will liaise with Moyne Shire Council to develop annual works plans for each coming year.

A qualified ecologist will be engaged by the land owner to monitor the implementation of the offset management plan and to produce a report on the condition of the offset management site to be provided to the MSC at the end of each period of two years.

As a primary function of the offset area is to provide an offset under the EPBC Act Environmental Offsets Policy for impacts to Natural Temperate Grassland of the Victorian Volcanic Plain these monitoring reports will be submitted to both MSC and DoE.

MSC will review ecological monitoring and management work reports and provide feedback to the land owner with regard to their performance of meeting the requirements of the OMP.

The offset site will be permanently protected, and the quality of the site maintained by the land owner in perpetuity, to the standards reached at the end of the 10 year management period covered by this OMP. This OMP will be reviewed by a qualified ecologist at the end of the 10 year management period and updated if/as required.

Funding for achieving the ecological gains outlined in this OMP has been agreed between the land owner and Axxcel Management Services. Resourcing of this management plan will be monitored by the Moyne Shire Council and adequate funds must be provided to meet the management objectives outline by this plan. This will include agreed funding for anticipated ongoing management required to maintain the offset site in perpetuity, beyond the initial 10 year management period. Failure to provide adequate resourcing for the implementation of this OMP will be taken as operating outside the approvals defined in association with referral 2014/7208 and could be subject to prosecution.

As the management of the site will be assured by this plan, Tiverton Property Partnering may also choose to accrue the biodiversity equivalence units which can be utilised as credits to be registered with Victoria's BushBroker as part of the implementation of this OMP.

<b>Management issues</b>	<b>Actions</b>
<b>Ongoing offset security</b>	<ul style="list-style-type: none"><li>• Agreement under Section 173 of the Planning and Environment Act 1988 with the Moyne Shire Council.</li></ul>
<b>Survey and monitoring</b>	<ul style="list-style-type: none"><li>• Ecological monitoring of vegetation condition by a qualified ecologist (Section 3.7).</li><li>• Supervision and monitoring of site management by the Moyne Shire Council (Section 3.7).</li><li>• Monitoring and reporting on the condition of NTGVVP every second (even numbered) year (Section 3.8).</li></ul>
<b>Grazing</b>	<ul style="list-style-type: none"><li>• Maintaining inter-tussock spaces through prescribed biomass control works predominantly through the use of pulse grazing (Section 3.5.4).</li><li>• Sheep grazing regime using high numbers of sheep over a short period with the objective of managing total plant biomass. Exclude all domestic stock grazing between August 31<sup>st</sup> and January 31<sup>st</sup> (Section 3.5.4).</li></ul>



Management issues	Actions
	<ul style="list-style-type: none"> <li>The permanent removal of existing rights to graze any domestic stock with the exception of sheep. Grazing by cattle, horses, goats etc. will be excluded by the covenant (Section 3.5.4).</li> </ul>
<b>Fire</b>	<ul style="list-style-type: none"> <li>Where practical, undertake ecological burning to reduce biomass and promote species diversity of grassland forbs, as described in this plan and in accordance with required safety procedures and assessment (Section 3.5.4).</li> </ul>
<b>Soil disturbance</b>	<ul style="list-style-type: none"> <li>Control pest animals such as rabbits, hares, cats and foxes to a standard exceeding existing legal requirements (Section 3.5.3).</li> <li>Restrict site access by maintenance of fencing and gates (Section 3.5.1).</li> </ul>
<b>Exotic plant invasion / Herbicide application</b>	<ul style="list-style-type: none"> <li>Undertake weed control works to lower the total cover of weeds from the current level (30% cover) to less than 20% comprising &lt; 1% cover for perennial grassy weeds and &lt; 2% cover for broadleaf weeds over a ten year period (Section 3.5.2, Table 4);</li> <li>Engage a qualified vegetation management contractor with experience in grassland vegetation to use herbicide for weed control where required. Exclude herbicide application outside of these works.</li> <li>Target the control of existing high threat weeds as well as any future high threat weeds which may colonise the site (Table 4).</li> </ul>
<b>Fertiliser addition</b>	<ul style="list-style-type: none"> <li>Prevent application of any fertiliser and prevent exotic pasture improvement activities (Section 3.3 and 3.4).</li> </ul>

---

# 1. Introduction

---

## 1.1 Project Background

Biosis Pty Ltd was commissioned by Tiverton Property Partnering to prepare an Offset Management Plan (OMP) for land to be protected and managed as an external offset for the development of an industrial subdivision at Lot H, Ajax Road Altona, Victoria (Figure 1).

An ecological assessment of the Ajax Road site, including a habitat hectare assessment, is documented by Biosis (2014). That report identifies the condition and extent of native vegetation, including areas of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) to be both impacted and protected in association with the proposed development (Figure 2). Biosis (2014) was used, in conjunction with the EPBC Act offsets policy, to identify the extent of NTGVVP to be protected outside the project area.

A Planning Permit application has been lodged for the industrial subdivision (PA1430329). Clearing associated with the development of the subdivision is currently being assessed by the Department of Environment, Land, Water and Planning (DELWP) and the City of Hobsons Bay as part of the development approvals process. The development has also been assessed and approved by the Department of the Environment (DoE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) through referral 2014/7208.

The plans submitted to council would result in clearing of 15.82 hectares of native vegetation including 15.62 ha of Plains Grassland (all equivalent to NTGVVP) and 0.20 ha of Plains Grassy Wetland. This impact would also result in the loss of 33 individuals of Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens* (Figure 2).

On-site offsets are proposed for NTGVVP and Spiny Rice-flower in the form of the retention and management of a conservation reserve. The reserve covers 21.123 ha on the southern side of the Altona Rail Line and includes 11.125 ha of NTGVVP and a significant population of Spiny Rice-flower (456 plants).

Offsets for the proposed development are prescribed by both state (DELWP) and federal (DoE) regulators. Offsets prescribed from the EPBC Act and the Guidelines cannot be generated concurrently and will therefore be sourced separately.

The offsets prescribed under Victoria's Biodiversity Assessment Guidelines (DEPI 2013 – the Guidelines) amount to 10.631 specific biodiversity equivalence units (SBEU) of habitat for Salt Lawrenzia *Lawrenzia spicata* and 1.369 SBEU for Creeping Rush *Junus revolutus*. A small proportion of these offsets are proposed to be secured onsite with the balance proposed to be secured offsite.

Offsets proposed under the EPBC Act include the onsite protection of 11.125 ha of NTGVVP and securing an external offset 47.125 ha NTGVVP.

The external EPBC Act offset is proposed to be sourced from Lot 3 of TP318450H at 1316 Darlington - Nerrin Road, Dundonnell (Figure 3). An ecological assessment of the proposed external offset area (Tiverton) was conducted by Biosis (2015). This report provides the basic ecological information to support this OMP and identified eight remnant, largely contiguous patches of native vegetation.

Management of the external EPBC Act offset will involve protection and active ecological management of 47.125 ha of high quality remnants of the Ecological Vegetation Classes (EVC) Plains Grassland (EVC 132) and Plains Grassy Wetland (EVC 132) which also correspond to the EPBC Act listed community NTGVVP (Figure 4).

---

The overall development will be conducted in a number of stages and losses will therefore occur progressively.

The Ajax Road industrial subdivision is within the Victorian Volcanic Plain (VVP) Bioregion ([www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)).

As the management of the external NTGVVP offset site will be assured by this plan, Axxcel Management Services (AMS) may choose to accrue the native vegetation credits associated the protection and management of land at Tiverton which can be registered on Victoria's Native Vegetation Credit Register as part of the implementation of this OMP.

## 1.2 Objectives

The objectives of this plan are to:

- Identify 47.125 ha within Tiverton (Lot 3 of TP318450H at 1316 Darlington - Nerrin Road, Dundonnell) that is nominated as a Federal offset site, and:
  - Provide an offset plan to the satisfaction of DoE;
  - To contribute a gain in the protection of habitat for NTGVVP in a manner consistent with the EPBC Act Environmental Offsets Policy; and
  - Identify the necessary management actions to protect and improve the quality of native vegetation and fauna habitat within the offset site.

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## 2. Part A: Offset Suitability

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### 2.1 Clearing Site Details

Landowner of clearing site	Axxcel Management Services
Location and address of clearing site	Ajax Business Park, Lot H Ajax Road Altona 3018
Local Government Area	City of Hobsons Bay
Catchment Management Authority	Port Phillip and Western Port
Responsible Authority	Department of Environment, Land, Water and Planning
Permit applicant	Axxcel Management Services
Planning Permit Number (ID)	PA1430329
Date Approved	/2015

### 2.2 Vegetation Approved for Removal

Vegetation removal has been approved under Permit PA1430329. Vegetation proposed for removal is described in the biodiversity assessment prepared by Biosis (2014) and provided below in Table 1. A total of 15.82 ha of native vegetation have been approved for clearing.

### 2.3 Offset Targets

Vegetation losses and offset requirements were calculated using the spreadsheet provided under the EPBC Act offset policy (DSEWPaC 2012). The offsets prescribed for each area of NTGVWP approved for clearing are presented in Appendix 1.

Offsets prescribed under the EPBC Act amount to the protection and management of 47.125 ha of NTGVWP. This plan outlines the location of the prescribed offset, the condition of the native vegetation to be protected, the management actions required to be implemented and the condition targets for that vegetation at the end of the ten year management period.

State prescribed offsets cannot be generated concurrently and are supplied by the proponent independently.

Consistency with the EPBC Act offsets policy is outlined in Table 2.

**Table 1: Summary of proposed losses of patches of native vegetation at Ajax Road**

Habitat Zone		2	5	6	7	12	TOTAL	
EVC #: Name		Plains Grassy Wetland 125	Plains Grassland 132	Plains Grassland 132	Plains Grassland 132	Plains Grassland 132		
	<b>Max Score</b>	<b>Score</b>	<b>Score</b>	<b>Score</b>	<b>Score</b>	<b>Score</b>		
Site Condition	Large Old Trees	10	na	na	na	na		
	Canopy Cover	5	na	na	na	na		
	Lack of Weeds	15	13	2	6	7	2	
	Understorey	25	10	15	15	15	15	
	Recruitment	10	3	6	6	6	6	
	Organic Matter	5	4	3	5	2	3	
	Logs	5	na	na	na	na	na	
	<b>Total Site Score</b>		30	26	32	30	26	
	<b>Standardised Site Score (x75/55)</b>		40.91	35.45	43.63	40.91	35.45	
Landscape Value	Patch Size	10	1	2	1	4	1	
	Neighbourhood	10	2	2	4	3	0	
	Distance to Core	5	3	3	3	3	3	
	<b>Total Landscape Score</b>		<b>6</b>	<b>7</b>	<b>8</b>	<b>10</b>	4	
HABITAT SCORE		<b>100</b>	47	42	52	51	39	
Habitat points = #/100		<b>1</b>	0.47	0.42	0.52	0.51	0.39	
Habitat Zone area (ha)			0.20	2.202	3.640	9.673	0.105	<b>15.82</b>
Habitat Hectares (Hha)			0.094	0.925	1.893	4.933	0.041	7.89
Number of Spiny Rice-flower present			0	0	8	25	0	<b>33</b>

**Table 2: Compliance with EPBC Act Offset Requirements.**

EPBC Act Offset Principles	Current offset Site
<p><b>Deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action</b></p>	<p>The protection of 47.125 ha of NTGVVP at Tiverton is part of an offset package protecting 58.25 ha of NTGVVP which includes the onsite protection and management of 11.125 ha and a significant population of Spiny Rice-flower (456 plants). The protection and ongoing improvement proposed will secure areas of both MNES in perpetuity and removes or controls the current threatening processes which are active at both locations. This management is essential to provide for the long term viability of the MES at these sites.</p>
<p><b>Be built around direct offsets but may include other compensatory measures</b></p>	<p>Habitat protection and management to improve vegetation condition is a direct offset.</p>
<p><b>Be in proportion to the level of statutory protection that applies to the protected matter</b></p>	<p>Entering the offset site data into the Environmental Offset Assessment Guide indicated that the offset package is in proportion to the level of statutory protection that applies (Appendix 1).</p>
<p><b>Be of a size and scale proportionate to the residual impacts on the protected matter</b></p>	<p>The Tiverton offset contributes to an overall offset package which protects 58.25 ha of habitat for an impact on 15.62 ha of NTGVVP (i.e. 3.7 times the area of habitat lost).</p>
<p><b>Effectively account for and manage the risks of the offset not succeeding</b></p>	<p>Both offset sites will be subject to an approved OMP and will be protected by an agreement under Section 173 of the <i>Planning and Environment Act 1988</i> with the Moyne Shire Council. The Tiverton offset will be managed by the land owner under supervision of the Moyne Shire Council and subject to audit by an independent ecologist.</p> <p>The legal protection for the site will remove a number of existing permitted uses which, if otherwise remained active, could have a significant negative impact on the NTGVVP present. The protection associated with this OMP will remove rights to apply fertilizer and graze with domestic stock other than sheep while also imposing significantly greater requirements to control environmental weeds.</p> <p>The risk of loss without implementation of the offset is quantified as 50%. This is based on the risk related timeframe and observations of unmanaged grasslands within the bioregion. Similarly a low risk of loss (5%) is attributed to managed grasslands subject to legal protection.</p>
<p><b>Be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action, see section 7.6)</b></p>	<p>No offsets for NTGVVP are prescribed under any State or Local Government offset prescriptions. The State offsets require the protection of habitat for two State listed rare species which occupy saline wetlands (i.e. Salt Lawrencia and Creeping Rush).</p>

EPBC Act Offset Principles	Current offset Site
<p><b>Be efficient, effective, timely, transparent, scientifically robust and reasonable</b></p>	<p>The offsets will be actively managed by the landowner under this OMP, under the supervision of the Moyne Shire Council and with input from an independent ecologist. The overall offset package protects 58.25 ha of habitat for an impact of 15.62 ha (i.e. 3.7 times the area of habitat lost).</p> <p>The NTGWPP proposed to be cleared occurs on private property which is not actively managed to protect or even maintain the biodiversity values present. These values are expected to decline significantly over the short term (i.e. within 10 years).</p> <p>The proposed external offset is of relatively high quality (i.e. has a habitat score between 0.55 and 0.59). Formal protection of this vegetation would remove potential threats to the ongoing quality of this vegetation which has the potential to decline significantly if existing permitted agricultural practices are not managed or excluded.</p> <p>The potential decline in the condition of the proposed offset from a starting quality of 5 to a 3 within the risk related time horizon is considered conservative given the potential for the rapid decline in the condition of this vegetation type.</p> <p>The potential increase in quality from a rating of 5 to 6 is considered reasonable given the positive response that grasslands can exhibit to active management with an ecological focus.</p>
<p><b>Have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.</b></p>	<p>Governance includes supervision by the Moyne Shire Council, audit by an independent ecologist and formal reporting to both AMS and DoE.</p>

## 2.4 Description of the Tiverton Offset Site

The offset area (20 ha) is located at Lot 3 of TP318450H, 1316 Darlington - Nerrin Road, Dundonnell. The site is approximately 50 km northwest of Colac and approximately 180 km west of the Melbourne central business district (Figure 3). The property is currently zoned Farming Zone and is not covered by any overlays relating to biodiversity or inundation. The land is managed by Tiverton Property Partnering who also holds broader areas of farmland in this area. The site is currently used for domestic stock grazing.

The offset area assessed is part of a broader, approximately 200 ha parcel (Figure 4). This parcel is largely dominated by Plains Grassland (EVC 132) and Plains Grassy Wetland (EVC 125) in relatively uniform condition but also supports smaller patches of Plains Sedgy Wetland (EVC 647), Aquatic Hermland (EVC 653) and Saline Aquatic Meadow (EVC 842). All of these EVCs are endangered within the VVP Bioregion. Areas of Plains Grassland and Plains Grassy Wetland also fit the definition criteria of the EPBC Act listed threatened community Natural Temperate Grassland of the VVP. The paddock is fenced to control stock movements between the balance of Tiverton and other adjacent properties.

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The proposed offset area (the area subject to this OMP) dominates the central third of this parcel (Figure 4). The offset area supports two habitat zones which will be managed to provide the external offsets prescribed for development of the Ajax Road industrial subdivision (Referral 2014/7208).

A detailed description of the flora and habitat hectare values within the proposed offset area is included in Biosis (2015) which identifies a total of 126 indigenous and 72 introduced plant species. This species list is included in Appendix 2. More indigenous and weed species are likely to be present as seasonal conditions and survey intensity typically prevent the detection of all species present within a defined area.

While this report focuses on nominated offset area, past inspections by Biosis indicate that the paddock also supports a variety of native vegetation communities (Biosis 2012). Other information identifying the extent of native vegetation includes a report prepared by DSE (2010) as part of a site assessment for BushBroker.

The study area has never been cultivated or subject to pasture improvement or intensive fertilizer application. However, at present pasture improvement activities and fertiliser application remain existing rights for this land.

## **NTGVVP**

A description of the NTGVVP present within the proposed offset area is as follows:

Over 50 ha of the listed community was mapped within this parcel with the offset area shown in Figure 4. 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. 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 4. 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 grassy weeds that are dominant under certain conditions. At the time of assessment there was moderate cover of annual grasses (about 30%) over most of the patches. While these species may provide a prominent 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.

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.

### **2.4.1 Other Threatened species**

The broader 200 ha parcel is known to support a number of threatened flora species (Biosis 2012 and 2015) including:

- *Asperula wimmerana* Wimmera Woodruff (rare in Australia)
- *Coronidium gunnianum* Pale Swamp Everlasting (vulnerable in Victoria)



- *Geranium* sp. 3 Pale-flower Crane's-bill (rare in Victoria)
- *Juncus revolutus* Creeping Rush (rare in Victoria)
- *Microseris scapigera* Plains Yam-daisy (vulnerable in Victoria)
- *Poa sallacustris* Salt-lake Tussock-grass (vulnerable in Australia)

The local distribution of known records or habitat for these species is described in Table 3.

**Table 3:** Extent of habitat for rare or threatened flora species within the Tiverton offset site.

Species	Conservation Status (Victoria)	Notes
<b>Wimmera Woodruff</b>	Rare	High quality habitat associated with areas mapped as Plains Grassy Wetland. Species recorded in or from contiguous habitat within the broader site.
<b>Pale Swamp Everlasting</b>	Vulnerable	High quality habitat associated with areas mapped as Plains Grassy Wetland. Species recorded in or from contiguous habitat within the broader site.
<b>Pale-flower Crane's-bill</b>	Rare	High quality habitat associated with areas mapped as Plains Grassy Wetland. Species recorded in or from contiguous habitat within the broader site.
<b>Creeping Rush</b>	Rare	High quality habitat associated with areas of Plains Grassy Wetland which are brackish. Species recorded in or from contiguous habitat within the broader site.
<b>Plains Yam-daisy</b>	Vulnerable	High quality habitat associated with areas mapped as Plains Grassy Wetland. Species recorded in or from contiguous habitat within the broader site.
<b>Salt-lake Tussock-grass</b>	Vulnerable (EPBC Act listed)	High quality habitat associated with areas of Plains Grassy Wetland which are brackish. Other potential habitat associated with the margins of saline lakes.

## 2.5 Gains Available within the Offset Site – 1316 Darlington - Nerrin Road

The extent and condition of native vegetation within the proposed offset site (Biosis 2012 & 2015) was submitted to the DELWP Native Vegetation Support team. This included the output of the DELWP gain calculator identifying the proposed offset area as a designated reserve with conservation as one of its key objectives (the site is proposed to be legally protected using either an agreement under Section 173 of the *Planning and Environment Act 1988* or a Trust for Nature Covenant under the *Victorian Conservation Trust Act 1972*). The output of the DELWP analysis is provided in Appendix 3.

The DELWP analysis identified an offset potential of 20.760 General and between 1.700 and 19.640 Specific Biodiversity Equivalence Units (GBEU & SBEU) for a variety of rare and threatened flora and fauna (Appendix 3).

## 2.6 Allocation of Native Vegetation Gains

Gains from the Tiverton offset area include General and Specific Biodiversity Equivalence Units (Appendix 3). As none of these GBEU or SBEU offsets are required for the impacts associated with clearing under Planning Permit PA1430329, Tiverton Property Partnering may choose to register the offset potential of the nominated offset site with BushBroker.

## 3. Part B: Offset Implementation – 1316 Darlington – Nerrin Road

### 3.1 Offset Site Details

Landowner of offset site	Tiverton Property Partnering Pty Ltd
Type of offset (onsite, 3rd party)	3rd party
Location and address of offset site	1316 Darlington - Nerrin Road, Dundonnell
Area of offset site (ha)	47.125 ha
Offset site number (if applicable)	Not Applicable
Volume	
Folio	
Parish	Terrinallum
Allotment	Lot 3
Local Government Area	Moynes Shire
Responsible Authority	Department of the Environment
Bioregion	Victorian Volcanic Plain

### 3.2 Strategy for Offset Site

The offset site is to be secured and managed for the purposes of conservation in perpetuity. This offset area is a smaller component of a larger area of native grassland which will be managed in a sympathetic manner on a voluntary basis. While it is the current land owner's objective to seek more formal agreements to protect the balance of this area of native grassland there is no requirement for such an outcome.

### 3.3 Offset Security and Management Responsibility

Who is liable/responsible for meeting offset requirements?	Tiverton Property Partnering Pty Ltd/ Axxcel Management Services
Type of security	Agreement under Section 173 of the <i>Planning and Environment Act 1988</i>
Date 10-year offset management to commence	__/__/2015
Date 10-year offset management expires	__/__/2025
Date agreement registered on-title	__/__/2015
Offset site management responsibility (i.e. Landowner, Authority Name)	Tiverton Property Partnering Pty Ltd
Offset Monitoring Responsibility (i.e. Responsible Authority)	Moynes Shire Council

An offset site must be protected in perpetuity to qualify as an offset site. The offset area (Figure 4) within the Darlington - Nerrin Road property will be secured in-perpetuity through an Agreement under Section 173 of the *Planning and Environment Act 1988*. If Tiverton Property Partnering choose to register the offset site with BushBroker then it is likely that the security mechanism would revert to a Trust for Nature covenant. The encumbrance registered on title will require the landholder to manage the land in accordance with this Offset Management Plan.

### 3.4 Ongoing Land-use Commitments

The offset site will be managed for an improvement in quality over 10 years. After this period of management, the land will be required to be maintained in the condition achieved as a result of that management, in perpetuity. The deed will specifically state the in-perpetuity land-use commitments across the site are to:

- Retain and manage all native vegetation as directed by this offset management plan;
- Exclude domestic stock except as permitted by this plan;
- Exclude the use of stock food such as hay or grain that is sourced from outside the offset area;
- Eliminate any woody weeds and ensure that the cover of other high threat weeds does not increase beyond levels achieved at Year 10 of management;
- Ensure that pest animals are controlled to the level attained at the completion of Year 10 of management.
- Exclude pasture improvement and fertilizer application;
- Control the accumulation of ground cover biomass through either the controlled grazing of sheep or the controlled application of fire: and
- Maintain a progressive annual works plan which caters to current conditions and prescribes ongoing management with maintenance of the native grassland community as its primary objective.

Implementation of this management plan is the overall responsibility of the land owner (Tiverton Property Partnering). However, direct management responsibility may be delegated to a designated site manager and/or managing ecologist. The land owner is responsible for engaging a qualified ecologist to conduct monitoring (Section 3.7) with reports submitted to Moyne Shire Council, AMS and DoE and as appropriate to DELWP. Management actions by the land owner will be overseen by the Moyne Shire Council as part of the legal protection over the site.

The Moyne Shire Council is responsible for:

- Undertaking site inspections at least 4 times over the 10 year management period and provide input into the annual works program.
- Review of ecological monitoring reports including an assessment of targets achieved.

Implementation of the management plan will be monitored by the Moyne Shire Council. Moyne Shire Council will verify that the actions have been carried out appropriately.

Implementation of the plan will begin upon registration of the covenant.

Implementation of the legal protection to improve site security yields a security gain of 10% of the current habitat score for the offset site (DSE 2007). This has been incorporated in the offset credits outlined in Section 2.5.

Funding for implementation of this OMP has been agreed between the land owner and AMS. Where appropriate or otherwise agreed, funding will be held by the Moyne Shire Council and paid to the land owner

over the 10 year management period as per a land owner agreement. This will include agreed funding for anticipated ongoing management required to maintain the offset site in perpetuity, beyond the initial 10 year management period.

### 3.5 Management Actions

The main threats to this native grassland include the existing permitted uses associated with normal farming practices such as inappropriate grazing regimes, pasture improvement and fertiliser application. Other threats include the expansion of the existing high threat weed populations, weed invasion in general and the accumulation of ground cover biomass. Currently the ground cover biomass is managed through grazing by domestic stock (mainly sheep but there are no current restrictions on what domestic stock may be grazed on site) and this is proposed to continue as a strictly controlled management practice. In addition, ecological burning guidelines have been developed.

Currently the site is not actively managed for biodiversity values and is utilised for domestic stock grazing.

The prescribed management actions outlined below are intended to achieve a conservation outcome which improves and maintains the viability of the offset site, and generates GBEU and SBEU identified in Appendix 3. This will be achieved through active ecological management (maintenance and improvement) and permanent protection of the offset site. Table 6 details these prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 4.

Offsets will be achieved by:

- Maintaining the existing fencing within the broader 200 ha parcel, and limiting access to the existing access gates unless otherwise authorised by the **Moyne Shire Council**.
- Weed control through active management;
  - Eliminating all woody environmental weeds
  - Controlling high threat weeds to levels specified in Table 4.
  - Controlling perennial grassy weed cover to less than 1%.
  - Controlling broadleaf weed cover to less than 2%.
- Managing organic litter (must not exceed the EVC benchmark cover of 10%);
- Biomass control through high intensity pulse grazing of domestic stock (sheep only) with grazing excluded from 31st August to 31st January;
- Ecological burning (50% of the offset area may be burnt at least four times within the 10 year management period e.g. years 1, 4, 7 and 10. No area is to be burnt more than once every two years);
- Controlling pest animals, particularly rabbits, hares, foxes and cats; and
- Managing native species understorey diversity and recruitment.

#### 3.5.1 Fencing, information and access control

Permanent fencing able to exclude domestic stock already exists around the boundary of the broader 200 ha parcel. Additional fencing around the 47.125 ha offset area is not required as it is proposed that grazing within the entire paddock will be managed in accordance with the prescriptions outlined within this offset management plan. Temporary fencing may be used within the offset area where negligible impacts to native vegetation associated with the placement and removal of that fencing occurs.

Additional permanent fencing is also not recommended for the following reasons: 1) to avoid the need for establishing stock water access points which will displace native vegetation, 2) to avoid funnelling of traffic through access gates and associated disturbance to soil and 3) to discourage trampling of native vegetation by stock along fence boundaries. Instead, sheep will be allowed to graze the offset area as part of the broader existing paddock structure, with limitations described in the following.

Posts marking the boundary of the offset site will be set up to clearly identify the area for monitoring and management purposes. Posts will be located in accordance with advice from a qualified ecologist to ensure impacts to native vegetation are avoided.

Temporary stock fencing will be established and maintained around the boundary of any burnt area within the offset site for at least 6 months post-burn to prevent stock access and damage to regenerating vegetation from grazing.

The offset area remains private property and access or disturbance to the offset site by unauthorised persons is prohibited. The existing access gate and security (locked gates) arrangement is adequate to service the access management requirements of this offset area.

If existing land-use rights are to be fully exercised in the remainder of the 200 ha parcel, fencing to exclude stock from the offset site will be required.

No additional signs identifying the property as an offset site are proposed. Explicit signage may inadvertently attract undesirable impacts. However signs identifying the property as a protected area of native vegetation will be considered by the owner.

### Actions

- Maintain existing fencing to control access by domestic stock to the broader 200 ha parcel and repair promptly if damage occurs.
- Temporarily fence any burnt area immediately prior to burning or immediately after wildfire, to exclude all domestic stock from grazing the burnt area for a minimum of 6 months.
- Establish posts to mark the boundary of the offset site for management and monitoring purposes under supervision from a qualified ecologist.
- Control access and any passive use to minimise impacts on native vegetation.
- Provide access for management vehicles into the offset site, using the existing access gates. No additional vehicle access is to be established.

### 3.5.2 Weed control

The weed control requirements to achieve the biodiversity gains identified by the **DELWP offset site report** only require woody weeds to be eliminated (these are already largely absent from the offset site) and other weed levels to be maintained at their current level. However the site is concurrently an offset under the EPBC Act and DoE requires a habitat improvement for both NTGVP and GSM habitat. Targets below therefore identify a reduction in the cover of perennial weeds.

Annual grassy weeds are prominent and typically the total weed cover (annuals and perennials) is about 40%. The annual weeds, which are mainly grasses such as Fescue *Vulpia* spp., Soft Brome *Bromus hordeaceus* and Hair Grass *Aira* spp., which not considered a significant threat in this environment, will be managed using grazing in an attempt to reduce their prominence. However, it is unlikely that any direct active management would have any impact on these species and no targets are proposed to for such species other than to prevent them increasing their current cover.

All high threat weeds are to be controlled to minimise or reduce their occurrence and ensure no further spread of weeds. The total cover of perennial grassy and broad-leaf weeds on site will be reduced from the

current level of 10% to no more than 2%. This includes specific targets for high threat species identified in Table 4, perennial grassy weeds will be reduced to less than 1% total cover and broadleaf weeds will be reduced to less than 2% of the cover by the end of the ten year management period.

The emphasis for weed control is the prevention of weed seed production with the goal being the reduction in the total weed cover with specific targets for high threat species on site. Weed control works will be timed appropriately in accordance with Tables 4, 5 & 6.

Weed levels will be monitored and management methods adapted over time in response to changing conditions. New and emerging high threat weeds will be monitored and controlled (to less than 1% cover) if found. Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled. If other high threat weeds, such as Serrated Tussock *Nassella trichotoma*, are found to occur in surrounding areas owned by the offset land owner, it would be prudent and cost effective to eliminate such species from nearby areas to reduce any potential invasion into the offset area. The offset owner will contact the land owner of any public land (i.e. council managed road reserves adjacent to the offset site) where high threat weeds occur within the vicinity of the offset area, with the aim to have these weeds controlled.

**Table 4: High threat weeds for priority control (Biosis 2015).**

Scientific Name	Common Name	% cover for the current assessment	Control Proposed	Desired Outcome <sup>^</sup>
<i>Agrostis capillaris</i>	Brown-top Bent	<1%	Burn standing dead material. New growth controlled crash grazing by sheep to prevent seed set and herbicide application	<1% cover
<i>Avena spp.</i>	Oats	2%	Controlled pulse grazing by sheep to prevent seed set. Spot spraying appropriate herbicide to prevent seeding.	<1% cover
<i>Lolium spp.</i>	Rye-grass	2–5%	Controlled pulse grazing by sheep to prevent seed set. Spot spraying appropriate herbicide to prevent seeding.	<1% cover
<i>Phalaris aquatica</i>	Toowoomba Canary-grass	1%	Spot spraying appropriate herbicide (early spring).	<1% cover
<i>Rumex spp.</i>	Dock	1%	Spot spraying appropriate herbicide (early spring).	<1% cover
<i>Cirsium, Silybum, Carduus and Sonchus spp.</i>	Thistles	1–5%	Spot Spraying appropriate herbicide (prevent flowering).	<1% cover

<sup>^</sup> Desired outcome after 10 years of ecological management

Woody weeds are known from the offset area and the broader 200 ha parcel. However these are only present at a very low cover. If any woody weeds are observed during site management or monitoring activities, these need to be controlled and eliminated promptly (before fruiting and seed set). The cover of woody weeds will be maintained at <1% in perpetuity.

Spot spraying with appropriate herbicide is the main method for reducing weed cover. Spot spraying will be undertaken regularly, particularly in spring and early summer, with a focus on killing weed plants prior to

seed set. Biomass control is also considered as an effective method for controlling and reducing weed levels. Biomass control at the site will include controlled sheep grazing and ecological burning. Spot spraying will be completed in a manner which minimises non-target damage. Spot spraying will not occur during high wind days or in close proximity to threatened flora without protective measures in place (i.e. physical shielding).

Burning is particularly effective at reducing weed cover, especially for species that are difficult to control such as Brown-top Bent *Agrostis capillaris*. Burning and/or grazing will allow greater access and efficiency for weed control and increased natural regeneration of indigenous plant species (Sections 3.5.4 and 3.5.5 below). Periodic burning that is followed by spot spraying will be important for weed species that are difficult to control (such as Brown-top Bent) until they are replaced by native species.

Target species are likely to change over time in response to seasonal conditions, the result of pulse grazing or the conduct of any controlled burns (e.g. likely flush of broad-leaf weeds to be treated post-burn). Weed cover and species will therefore be monitored and management adapted in response to achieve desired outcomes outlined in this management plan. The Moyne Shire Council will be consulted and approve the control techniques for any new or emerging weeds identified within the offset area.

The offset area is not in close proximity to any named waterway although a number of seasonal wetlands occur within this parcel and its surrounds. While there may be localised surface water flows during high rainfall events, any wetland within the site is ephemeral and no specific runoff risk is identified for the application of herbicides to this area.

### Actions

- Periodic spot spraying of weeds with appropriate herbicide will be undertaken, particularly through spring and early summer.
- Target weeds will be controlled in a timely manner and before seed set; this requires regular monitoring and treatment.
- Ensure the absence of high threat woody environmental weeds within the offset area through monitoring and if high threat woody environmental weeds are found to occur, control and eliminate promptly. Preferably control nearby infestations to prevent the spread of these species.
- Control works will ensure that the total cover of perennial weeds will be reduced to no more than 2%. Specific targets include: a reduction of high threat weeds in accordance with Table 4; perennial grassy weeds will be reduced to less than 1% total cover; and broadleaf weeds reduced to no more than 2% cover.
- Monitoring will be undertaken to demonstrate the effectiveness of weed control works and the results are to be used to adapt future control works and targets.
- Any populations of new and emerging high threat weeds will be treated promptly and eliminated to <1% cover. This will be done in consultation with Moyne Shire Council.
- Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled in consultation with Moyne Shire Council.
- During weed control, natural regeneration of indigenous flora will be protected from off-target damage.
- Biomass management will be undertaken as per Sections 3.5.4 below.



### 3.5.3 Pest Animals

The control of vermin including rabbits and other pest herbivores beyond the legal duty of care is a requirement of this OMP. Therefore pest animal control works are required within the offset site.

Grazing by European Rabbits *Oryctolagus cuniculus* and European Hares *Lepus europeus* is evident and is likely to have a significant impact within the offset site. However, no active rabbit warrens were noted within the offset site.

Currently rabbits and hares are controlled by shooting and this appears to be effective at this point in time. If this changes, baiting can be considered as an option for control of these pests.

Control within the offset site would effectively be achieved through a reasonable level of works to eliminate any active warrens in the local area (i.e. land within the owners control and within 500 m of the offset site). Control will in part be achieved through the removal and destruction of the shelter provided by any shrubby weeds within the broader area managed by the same landowner. The landowner will therefore control all shrubby environmental weeds on their land within 500 m of the offset site. Control of rabbits will be undertaken in accordance with current guidelines provided by the relevant Victorian Government Department.

Ripping of rabbit warrens within the offset site is not permitted. If any warrens develop within the offset site they will be treated by low impact measures such as fumigation or implosion.

Other problem pest animals may include cats and foxes although the general lack of shelter and harbour for these species reduces the likelihood that any animals are resident in the local area. Control techniques such as poisoning are therefore likely to be ineffective. The landowner will select from the range of control techniques available and apply the most effective in the local conditions.

#### Actions

- Control and seek to locally eliminate European Hares, European Rabbits, cats and foxes and using appropriate control techniques including shooting, poison baits or similar methods, without soil disturbance.
- At a minimum spotlight shooting over a minimum period of three hours targeting all pest animals will occur over the entire site once every three months. This will be conducted by the landowner or a professional shooter employed by the landowner;
- Fumigate rabbit warrens within three weeks of detection. Fumigation works will be conducted by a suitably qualified operator.

### 3.5.4 Biomass / Organic Litter control

Biomass management is essential to maintain indigenous flora and fauna values throughout the offset site. Biomass management is also required to maintain inter-tussock spaces and prevent excessive competition to grassland forbs. Where there is a sustained build up in ground cover biomass over any one year, resulting in a reduction of inter grass tussock space to an average of less than 30%, biomass will need to be actively reduced. Judgements on the cover of inter-tussock space and the build-up of groundcover biomass will be made by the landowner in consultation with the Moyne Shire Council. The independent ecological monitoring will also assess the effectiveness of the biomass control techniques applied and the need for any adjustments to the management regime to provide the prescribe outcome.

Controlled grazing will be applied to reduce biomass and maintain an open tussock-grass structure for this grassland, and where appropriate, ecological burning will also be utilised.

## Use of grazing for ecological management

Currently the offset site is subject to unrestricted grazing by sheep. Given the diversity of native species found within the uncultivated native grasslands of this site, this method of disturbance regime (grazing by domestic stock) is seen as a reliable and conservative action to maintain and improve the ecological values associated with the area. While grazing by domestic stock will continue to be used at this site as a method of biomass reduction, it will be undertaken in a controlled manner following a grazing management plan. Biomass accumulation control at this site will therefore be consistent with the standards for management of ecological grazing provided by DSE (2009).

In this context pulse grazing (i.e. using high numbers of sheep over short periods) in the offset area to maintain an open tussock grassland structure is seen as a precautionary management method to maintain the species richness of these native grasslands. Grazing of domestic stock will be restricted to the use of sheep. Grazing by other domestic stock including but not restricted to cattle, goats and horses is to be excluded from the offset site by this plan.

The timing of grazing will be strictly controlled to allow native species to grow and set seed over the spring to mid summer period (DSE 2009). Stock will be excluded from the end of August to the end of January annually, in perpetuity. Table 6 provides targets to be met for ongoing management of grazing within the offset area. The landowner will keep records of the number of sheep and duration of grazing within the offset area. This data will be provided to the Moyne Shire Council on an annual basis. This data and the resultant impact on biomass will provide the basis for an on-going grazing strategy to be approved by the Moyne Shire Council.

**Table 5. Requirements and limit of grazing activities within the offset area.**

Period where grazing by domestic stock is not permitted	31 <sup>st</sup> August to 31 <sup>st</sup> January annually in perpetuity
Pulse grazing cycles required	3 (minimum)
Grazing required prior to exclusion period	15 <sup>th</sup> July to 31 <sup>st</sup> July
Minimum rest from grazing between pulse grazing	2 weeks
Maximum continuous pulse grazing	4 weeks
Biomass management thresholds	Total vegetation cover of no greater than 70%
Target inter-tussock space	Minimum 30% of total site cover

Grazing will occur over a short duration and exceed the standard stocking rate to prevent selective grazing and allow for periods of non-grazing. The maximum length of continuous grazing is 4 weeks with at least 2 weeks rest between cycles. Biomass management objectives are that inter-tussock space will be maintained to at least 30% and the total vegetation cover will not fall below 50%. At least 3 pulse grazing cycles will occur within the grazing period, one of which will occur immediately prior to the exclusion period.

The only exception to requirements specified for pulse grazing (Table 10) is if an ecological burn is planned during or following the pulse grazing period. In this instance a fire management plan produced by a qualified contractor will inform when grazing will be removed to allow for a build up in biomass to establish a burn.

Sheep used for pulse grazing will be shorn within the previous 1-2 months to reduce likelihood of weed seed introductions. Stock transfer into the offset site will be timed to minimise the potential for weed seed

transport via mud (i.e. stock movements into the offset site will be excluded within two days of rainfall). The 200 ha parcel will need to be monitored during wet periods to prevent excessive soil disturbance in areas of Plains Grassy Wetland. Following any high rainfall events, stock will be removed immediately.

### **Use of fire for ecological management**

Burning within the offset area will be undertaken only with due consideration to relevant health and safety issues, in consultation with the Country Fire Authority and in line with a fire management plan completed by a suitably qualified consultant. Any approved fire plan will also be provided to DoE at least three weeks prior to any burning event identified within that plan. The following provides guidelines for use of burning only in an ecological sense. The land owner is responsible for ensuring the requirements of this OMP can be carried out only if compliant with all other government planning requirements and permits.

While grazing by domestic stock will be the typical manner in which ground cover biomass will be regulated, the controlled application of fire is an efficient and cost-effective alternative technique for reducing biomass in grassy ecosystems such as those that occur within the offset site. Importantly, burning (c.f. grazing or slashing) allows greater access and efficiency for weed control and increased natural regeneration of indigenous plant species. While burning may enhance germination of indigenous species, it can also be expected to promote certain exotic species and as such post-burning weed-control will be vital in maintaining remnant vegetation. However stimulating the soil stored weed seed bank is seen as positive as this allows this seed bank to be exhausted through active management.

The controlled application of fire will be used for biomass reduction in all or parts of the offset site. Selected areas of grassland may be burnt to tackle particular weed issues or to assist in the lowering of soil nitrogen and phosphorous which would also assist in weed control works. However no area is to be burnt more frequently than every two years and no more than 50% of the offset site will be burnt in any one year. The application of a mosaic burning regime is also considered advantageous and therefore any individual burn will not cover a contiguous area of more than 10% of the offset site (i.e. there may be five separate burns in any one year covering a total of about 25 ha but any one burn will cover a maximum of 5 ha and be separated from other burnt areas by at least 20 m of unburnt grassland.

The landowner will prepare maps identifying the fire history of the offset area to ensure compliance with the area restrictions identified above.

The extent, intensity and timing of burns must take into account the presence of threatened species, in particular Striped Legless Lizard. Fire may kill individuals of this species during the warmer months of the year when they are active above the soil surface. Timing of burns should only be undertaken when soil moisture is low and soil cracks are still present allowing refuge for Striped Legless Lizard.

Any ecological burns will be conducted during benign (low wind and mild temperature) weather conditions and may be patchy (i.e. not result in the uniform burning of all areas). Patchy burns are a desirable outcome.

### **Actions**

- Develop a grazing plan consistent with Table 6 for the offset area, including timing and intensity;
- Exclude grazing during wet periods where ground disturbance would occur;
- Engage a qualified contractor to produce a fire management plan which allows for an ecological burning regime described in the following dot point. Provide any approved burn plan to DoE at least three weeks prior to any burning event identified within that plan.
- Undertake ecological burning over approximately 40-50% of the offset area at least four times during the 10 year management period. For example at year 1, 4, 7 and 10 or in smaller areas more

frequently as required by the fire management plan. Rotate areas burnt so that no area is burnt more frequently than every two years, burn areas in a small scale patchwork with any individual burnt area covering no more than two ha. Note that the use of fire is not a compulsory component of this plan and may also be used at a much reduced scale if considered appropriate (i.e. localised burning of small areas for weed or biomass control);

- When planning burns, liaise with any relevant regulator regarding appropriate planning and permits in a timely manner;
- Plan and conduct ecological burning within different seasons to promote regeneration of a variety of species. However ensure burns consider the ecological needs of any threatened species which may be present (e.g. Striped Legless Lizard).

### **3.5.5 Understorey Diversity and Recruitment**

The major threats to understorey diversity in these grasslands are over-grazing by domestic stock and other introduced herbivores, competition from introduced plant species and the accumulation of biomass over a prolonged period (greater than a year). These areas of Plains Grassland and Plains Grassy Wetland retain between 50 and 90% of the expected number of understorey life-forms for this EVC, and are generally not considered deficient in terms of the species diversity of the life-forms that are present. Missing or deficient elements are typically the large herbs and this is largely a function of the growth stage of the plants present. Enrichment planting is therefore not currently necessary although this will be reviewed by the independent ecologist monitoring the site after five years of active ecological management.

Controlled grazing by domestic stock and the control of rabbits and hares are required to maintain understorey diversity and encourage recruitment of threatened species. Fire or other forms of biomass reduction would also be required to facilitate regeneration, remove the dead biomass associated with weed control works and maintain inter-tussock spacing. The use of fire could be implemented at a number of scales. Within this larger grassland patch it would take the form of a managed patch burn covering up to 10 hectares or in smaller patches localised burning covering up to half a hectare or even tens of square metres using a hand held weed burner. Biomass control works will also reduce the potential for uncontrolled wildfire to impact this site.

Active management will seek to significantly reduce the cover of all exotic species with specific targets for high threat species given in Table 4.

#### **Actions**

- Active weed management to be undertaken as outlined in Section 3.5.2
- Biomass will be managed to enhance recruitment – see Sections 3.5.4 above.

### **3.5.6 Supplementary Planting and Revegetation**

There is currently no need to do any supplementary planting or revegetation within the offset site. There is a high diversity of understorey species in this area and improvement will mainly be achieved through weed control. This decision will be reviewed by the independent ecologist after five years of active management.

## **3.6 Summary of Offset Gains**

The gains associated with the implementation of this Offset Management Plan align with the requirements for defined offset areas under Victoria's Biodiversity Assessment Guidelines are as follows:

- The application of permanent legal protection requiring conservation management of the area as guided by this plan (Section 3.3);
- The permanent removal of existing rights to apply fertiliser and conduct exotic pasture improvement activities (Section 3.3 and 3.4);
- The permanent removal of existing rights to graze any domestic stock with the exception of sheep. Grazing by cattle, horses, goats etc. will be excluded by the covenant (Section 3.4);
- Only allowing the pulse grazing of domestic stock within the parameters required by this plan (i.e. grazing exclusion between the end of August and the end of January) (Section 3.5.4);
- Maintaining inter-tussock spaces through prescribed biomass control works predominantly through the use of pulse grazing (Section 3.5.4);
- Using fire to augment pulse grazing by sheep to manage biomass and maintain inter-tussock spaces within the restrictions outlined by this plan and DEWHA (2009) (Section 3.5.4);
- Preventing over-grazing by identifying a minimum vegetation cover (50%) to which pulse grazing is permitted (Section 3.5.4);
- Requiring weed control works to lower the total cover of perennial weeds from the current level (10% cover) to no more than 2% cover with less than 1% cover for perennial grassy weeds and no more than 2% cover for broadleaf weeds over a ten year period (Section 3.5.2, Table 4);
- Targeting the control of existing high threat weeds as well as any future high threat weeds which may colonise the site (Section 3.5.2, Table 4);
- Requiring the control of pest animals such as rabbits, hares and foxes above the existing legal requirements (Section 3.5.3);
- Requiring the permanent maintenance of the reduced weed cover reached after the first ten years of management (Section 3.4);
- Supervision and monitoring of site management by the Moyne Shire Council (Section 3.7).

Additional details on required management actions and relevant timing for implementation is provided in Table 6. This OMP is consistent with the requirements of referral approval condition XX (insert when available).

**Table 6: Management plan actions and timing for offsets on the McDonnell Road, Ombersley offset site.**

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
0	0.1	-	Establish offset area.	Upon registration of the agreement. This action is a key requirement defining the start of the prescribed management period.	47.125	ha	Land Owner	Agreement under Section 173 of the <i>Planning and Environment Act 1988</i> with the Shire of Moyne
0	0.2	-	Ensure appropriate fencing is established. Fencing already protects the broader 200 ha parcel within which the offset site is located. The offset area allocated to this specific offset management plan does not need to be fenced separately unless existing land-use rights are fully exercised in the remainder of the 200 ha parcel.	This action is a key requirement defining the start of the prescribed management period.	-	-	Land Owner	Site isolated from activities excluded by this plan (i.e. construction works, uncontrolled grazing by domestic stock).
0	0.3	-	Establish markers to identify boundary of the offset site to assist with management and monitoring of the area.	This action is a key requirement at the start of the prescribed management period.	-	-	Land Owner in consultation with qualified ecologist	Markers established to identify the boundary of the offset site. Guidance provided by a qualified ecologist to ensure impacts to native vegetation are avoided.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
0	0.4	-	Where appropriate identify a person/company to control pest plants and animals. In this instance the Moyne Shire Council (MSC) will provide appropriate supervision for the land owner to conduct the pest plant and animal control works.	Upon registration of the 173 agreement between land owner and MSC.	-	-	Land Owner	Appropriate personnel appointed to conduct works.
0	0.5	-	Qualified ecologist to undertake baseline monitoring, establish monitoring points and refine management actions based on baseline results.	Oct-Nov monitoring	1	Report	Qualified ecologist	Prepare standard report including photos and confirm agreed performance measures outlined in Section 3.5.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
1	1.1	0.1-0.5	Land owner to develop annual works plan in consultation with the MSC based on a site inspection with MSC.	Upon registration of the covenant.	-	-	Land Owner and MSC	Annual works plan prepared and approved for implementation by MSC.
1	1.2	1.1	Maintain fences and gates around broader offset area and markers around offset site in good working order. Remove any rubbish present within the offset site.	Continuous (inspection and management)	-	-	Land Owner	Potential threats (i.e. rabbits, domestic stock, unauthorised entry) excluded.
1	1.3	1.1	Undertake pulse grazing to reduce biomass. A minimum of three pulse grazing cycles are required within the grazing period, and one of these will occur immediately before the exclusion period (unless otherwise advised by the fire management plan). The maximum grazing length at any one time is four weeks with a minimum two week rest period between grazing cycles. Vegetation cover will not be grazed below 50% and inter-tussock space will be maintained to at least 30%.	31 <sup>st</sup> January – 31 <sup>st</sup> July	47.125	ha	Land Owner	Maintain an open tussock grassland with at least 30% cover of inter-tussock space.



Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
1	1.4	1.1	Control pest animals (e.g. rabbits, hares, foxes and cats) within the offset and surrounding area (within 500m of offset site where possible).	Feb-Apr, Sep-Nov	-	-	Land Owner in consultation with ecological restoration contractor	No ground disturbance by pest animals within offset site. No active rabbit warrens present within offset site, minimal surface harbour for rabbits and hares present (but excluding natural harbour such as rocks).
1	1.5	1.1	Control all high threat grass / herb weeds before seed set using appropriate methods to ensure a reduction of existing weed levels. Refer to Table 5 for percentage cover of high threat weeds at inception. Eliminate any woody weeds (see Section 3.5.2). Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.	July-Nov or as required and detailed in the annual works plan	47.125	ha	Land Owner in consultation with vegetation management contractor	Minimise the occurrence of weeds, with a reduction in total cover of weeds, including high threat weeds, beyond current levels. Target is a total perennial weed cover of no more than 2% with reduced cover of high threat weeds listed in Table 5, <1% perennial grassy weeds and no more than 2% broadleaf weeds by the end of 10 years. Minimum off-target damage. Control new and emerging weeds to < 1% cover across offset site.
1	1.6	1.1	Develop burn plan and undertake ecological burn of the offset site to reduce plant biomass and promote recruitment of native species. Ecological burns to be undertaken over 40-50% of the offset	Sep-Oct (or as specified in the burn plan)	25	ha	Qualified contractor in consultation with CFA and MSC	Medium intensity burn over 40-50% of the 47.125 ha area. Some small areas within burn boundary left unburnt. No area to be burnt at a frequency of more than once every

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
			area at least four times during 10 year management period (e.g. years 1, 4, 7 and 10). Conduct burns in different seasons to promote regeneration of a variety of species.					two years. Follow up weed control will be undertaken within the burn area in accordance with section 3.5. Burns must also be undertaken to generate a mosaic pattern of burnt and unburnt areas (See section 3.5.4.)
1	1.7	0.5	Conduct regular site inspections at a frequency to ensure management activities are conducted as required. This will incorporate identification of any new weeds and evaluation of biomass conditions. These inspections will be conducted by the land owner. MSC to participate in site inspections at least four times over offset period.	Site inspections at an appropriate frequency	-	-	Land Owner and MSC	Reporting of management activities as agreed. This can consist of a series of notes of observations made by the land owner during site inspections.
1	1.8	0.5	Qualified ecologist to undertake monitoring, and refine management actions based on results. Identify any new high threat weeds for priority control. Report to regulator as required.	Oct-Nov monitoring  Dec Reporting	1	Report	Qualified ecologist to be engaged by the Land Owner	Prepare standard report including results from photos and agreed performance measures outlined in Section 3.5. Monitoring report provided to MSC, AMS, DELWP & DoE.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
1	1.9	1.7	Prepare annual report based on site inspections conducted throughout the year. Report to be provided to MSC, AMS and DoE.	Nov	1	Report	Land Owner	Report reviewing the success of management and level of implementation of OMP provided to MSC, DoE, AMS and as appropriate to DELWP.
1	1.10	1.8-1.9	Review and update Annual Works Plan in consultation with MSC.	Dec	1	Report	Land owner in consultation with MSC	Following year's management tailored to current site conditions.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Recurrent Activities</b>								
2-10	X.1	1.2	Maintain fences and gates around broader offset area and markers around offset site in good working order.	Continuous (inspection and management)	-	-	Land Owner	Potential threats (i.e. rabbits, domestic stock, unauthorised entry) excluded.
2-10	X.2	1.3	Undertake pulse grazing to reduce biomass. A minimum of three pulse grazing cycles are required within the grazing period, and one of these will occur immediately before the exclusion period (unless otherwise advised by the fire management plan). The maximum grazing length at any one time is four weeks with a minimum two week rest period between grazing cycles. Vegetation cover will not be grazed below 50% and inter-tussock space will be maintained to at least 30%.	16 <sup>th</sup> January – 31 <sup>st</sup> July	47.125	ha	Land Owner	Maintain an open tussock grassland with at least 30% cover of inter-tussock space.
2-10	X.3	1.4	Control pest animals (e.g. rabbits, hares, foxes and cats) within the offset and surrounding area (within 500m of offset site where possible).	Feb–Apr, Sep–Nov	-	-	Land Owner in consultation with ecological restoration contractor	No ground disturbance by pest animals within offset site. No active rabbit warrens present within offset site, minimal surface harbour for rabbits and hares present (but excluding natural harbour such as rocks).

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
2-10	X.4	1.5	<p>Control all high threat grass / herb weeds before seed set using appropriate methods to ensure a reduction of existing weed levels. Refer to Table 4 for percentage cover of high threat weeds at inception.</p> <p>Eliminate any woody weeds (see Section 3.5.2).</p> <p>Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.</p>	July–Nov or as required and detailed in the annual works plan	47.125	ha	Land Owner in consultation with vegetation management contractor	<p>Minimise the occurrence of weeds, with a reduction in total cover of weeds, including high threat weeds, beyond current levels. Target is a total perennial weed cover of no more than 2% with reduced cover of high threat weeds listed in Table 4, &lt;1% perennial grassy weeds and no more than 2% broadleaf weeds by the end of 10 years.</p> <p>Minimum off-target damage.</p> <p>Control new and emerging weeds to &lt; 1% cover across offset site.</p>
2-10	X.5	1.9	<p>Undertake regular site inspections at a frequency to ensure management activities are conducted as required. This will incorporate identification of any new weeds and evaluation of biomass conditions. These inspections will be conducted by the land owner. MSC to participate in site inspections at least four times over offset period.</p>	Site inspections at an appropriate frequency	-	-	Land Owner and MSC	<p>Reporting of management activities as agreed. This can consist of a series of notes of observations made by the land owner during site inspections.</p>

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
2-10	X.6	2.5	Prepare annual report based on site inspections conducted throughout the year. Report to be provided to MSC, AMS and DoE.	Nov	1	Report	Land Owner	Report reviewing the success of management and level of implementation of OMP provided to MSC, DoE, AMS and as appropriate to DELWP
2-9	X.7	2.6	Review and update Annual Works Plan in consultation with MSC.	Dec	1	Report	MSC and land owner	Following years management tailored to current site conditions

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
<b>Year Specific Activities</b>								
3, 5 & 10	X.8	1.8	Qualified ecologist to undertake monitoring, and refine management actions based on results. Report to regulator as required.	Oct-Nov monitoring Dec Reporting	1	Report	Qualified ecologist to be engaged by the Land Owner	Prepare standard report including results from photos and agreed performance measures outlined in Section 3.5. Monitoring report provided to MSC, DoE, AMS and as appropriate to DELWP.
4, 7 & 10	4.8, 7.8 & 10.9	1.6	Develop burn plan and undertake ecological burn of the offset site to reduce plant biomass and promote recruitment of native species. Ecological burns to be undertaken over 40-50% of the offset area at least four times during 10 year management period (e.g. years 1, 4, 7 and 10). Conduct burns in different seasons to promote regeneration of a variety of species.	Mar-Apr (or as specified in the burn plan)	25	ha	Qualified contractor in consultation with CFA and MSC	Medium intensity burn over 40–50% of the 47.125 ha area. Some small areas within burn boundary left unburnt. No area to be burnt at a frequency of more than once every two years. Follow up weed control will be undertaken within the burn area in accordance with section 1.5. Burns must also be undertaken to generate a mosaic pattern of burnt and unburnt areas (See section 3.5.4.)
10	10.10	10.8	Revise this offset management plan (OMP) in consultation with MSC to identify management actions required to maintain the offset site in perpetuity.	Dec	1	OMP	Qualified ecologist	Updated offset management plan to aid ongoing maintenance of the offset site.

Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
10	10.11	10.9	Identify and allocate resources for ongoing management and continue to implement active ecological management to maintain the offset site.	Dec			Land Manager in consultation with MSC	Ongoing ecological management to maintain and improve the ecological values of the Protection Site in perpetuity.
<b>Beyond Year 10</b>								
Beyond year 10			Maintain fences and gates around broader offset area in good working order.	Continuous (inspection and management)	-	-	Land Owner	Potential threats (i.e. rabbits, domestic stock, unauthorised entry) excluded.
Beyond year 10			Evaluate ground cover biomass and manage using pulse grazing and ecological burning	As required	47.125	ha	Land owner	Maintain an open tussock grassland structure (30% inter-tussock spacing) using fire and pulse grazing, and ensure areas with high levels of dead weeds are subject to biomass reduction.
Beyond year 10			Control pest animals (e.g. rabbits, hares, foxes and cats) within the offset and surrounding area.	Feb – Apr, Sept – Nov	-	-	Land Owner	Absence of evidence of grazing/browsing by pest animals.



Year number	Action No	Required preceding action*	Activity Description	Timing of activity - month(s)	Quantity	Units	Who is responsible for this action?	Standard to be achieved
Beyond year 10			Control all high threat grass / herb weeds before seed set using appropriate methods to ensure existing weed levels, at the minimum, do not increase. Eliminate all woody weeds. Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.	July - Nov	47.125	ha	Land Owner	Minimise the occurrence of weeds, with no increase in cover of weeds, including high threat weeds, beyond current levels. Minimum off-target damage. Control new and emerging weeds to < 1% cover across offset site.
Beyond year 10			Undertake monitoring and refine management actions based on results. Identify any new high threat weeds for priority control. Conduct regular site inspections at a frequency to ensure management activities are conducted as required. These inspections will be conducted by the land owner.	Oct-Nov monitoring  Site inspections at an appropriate frequency			Land Owner	Land Owner to undertake monitoring as required and site inspections biannually (at a minimum).

### 3.7 Monitoring and Reporting

Offset sites require a review of the management actions by a qualified ecologist after years 1, 3, 5 and 10 of management. Baseline data will be collected prior to the commencement of management works and data on the selected parameters will be collected during each of the four reviews. The results of these audits will be reported to Moyne Shire Council and DoE as required. A template for this reporting is provided in Appendix 4 which will also be used for the collection of baseline data at the start of the offset management period. Information from these monitoring events will be used to guide the ongoing site management.

After the 10 year review the offset site will continue to be managed by the land owner in a manner consistent with the objectives of this plan.

More general supervision/monitoring of the grassland will be undertaken by the Moyne Shire Council to ensure the grasslands response to management actions produce the desired outcome outlined by this plan. Moyne Shire Council will visit the site a minimum of four times over the 10 year management period (at least the spring of years 1, 3, 6 and 10) and will liaise with the land owner annually regarding the development of an annual works plan.

The progress of management works will be monitored by the land owner on a regular basis (at a minimum once every 2 months). The land owner will provide a management progress report to Moyne Shire Council on an annual basis (or more frequently as required).

#### Actions

- Engage a qualified ecologist to undertake monitoring of management at the commencement of the offset management period (to provide baseline data) and in years 1, 3, 5 and 10. Reports will be provided after years 1, 3, 5 and 10 to Moyne Shire Council and DELWP as required and will include a review of past works and future planning.
- A minimum of 20 permanent photo points will be established by the ecologist, marked and accurately located by GPS or similar within the offset site. Photo points will be located to adequately characterise the current vegetation condition, and include a range of weed species. These photo points will be used to monitor the vegetation for at least the 10 year period covered by this plan.
- Within a 5 x 5 m area centred on each photo point the ecologist will assess the percentage total vegetation cover, percentage cover of inter-tussock space, average height of vegetation and cover of native and exotic life-forms will be recorded.
- The results of the current year's management actions in relation to the annual management objectives will be reviewed by 31 December each year in consultation with MSC. This requires regular site inspection to determine the progress of pest plant and animal control works. Short inspections by the land owner to monitor management progress will be completed at least every two months. Input from the Moyne Shire Council is also required to approve any potential changes to management activities. This input will occur at least once per annum.
- An annual management review will inform the annual works program. This works program will be prepared by the land owner in consultation with the Moyne Shire Council by the end of December each year. The plan will be implemented by the land owner and will include achievable management objectives consistent with this management plan. The works program for the coming year will also address issues that may not have been anticipated in formulating this original management plan.
- Annual progress reports will be prepared by the land owner.

- Appropriate records must be kept for each monitoring event by the land holder, MSC and the nominated ecologist (date, time, location, description of features or actions within each photograph).
- A completed Landowner monitoring and reporting form (required by DELWP in years 2, 5, 10 and within three months as requested in writing by DELWP after year 10).

### 3.8 Timing

The time frame of the OMP is 10 years from commencement of management works. Ecological improvements including the control of pest plants and animals are required to be achieved over this ten year period. The formal commencement of the 10 year management period must start when the offset area has been legally protected.

Reports prepared by a suitably qualified ecologist will be provided after years 1, 3, 5 and 10 to MSC, AMS and DoE and also to DELWP as required, and will include a review of past works and future planning.

The land owner will provide a report on the status of management works to the Moyne Shire Council, AMS and DoE on an annual basis.

Prior to works being undertaken each year the annual works program (based on Table 6) will be reviewed. The person undertaking the works will prepare a detailed works program in consultation with MSC. The works program for the coming year will also address issues that may not have been anticipated in formulating this original management plan.

This management plan will be periodically reviewed during the 10 year management period and modified if necessary. It is suggested that a review of this plan be incorporated in the reporting requirements for years 1, 3, 5 and 10.

## References

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- Biosis 2012. *Flora and Habitat Hectare Assessment for southern sections of Tiverton, Dundonnell, Victoria*. Report for Axxcel Management Services. Author: S Mueck. Biosis Pty Ltd, Melbourne. Project No. 15322.
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- DEPI 2013. *Permitted clearing of native vegetation - Biodiversity assessment guidelines*. Victorian Government Department of Environment and Primary Industries, Melbourne (September 2013).
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- DSEWPac 2012. *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*. Department of Sustainability, Environment, Water, Population & Communities. Australian Government, Canberra.

## Appendices

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## Appendix 1

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### EPBC Act offset calculator output for clearing at Ajax Road Altona

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	2,202	Hectares	report HZ5
			Quality	4	Scale 0-10	
			Total quantum of impact	0.88	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																			
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
<i>Ecological Communities</i>																			
Area of community	Yes	0.88	Adjusted hectares	7.4	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	7.4	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%							
					Future area without offset (adjusted hectares)	3.7	Future area with offset (adjusted hectares)	7.0	3.33	80%	2.66	0.71							
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	3.00	80%	2.40	1.24	0.89	100.90%	Yes
<i>Threatened species habitat</i>																			
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset								
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0											
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)								
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
Number of features e.g. Nest hollows, habitat trees	No																		
Condition of habitat Change in habitat condition, but no change in extent	No																		
<i>Threatened species</i>																			
Birth rate e.g. Change in nest success	No																		
Mortality rate e.g. Change in number of road kills per year	No																		
Number of individuals e.g. Individual plants/animals	No																		

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	0.8808	0.89	100.90%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	3.64	Hectares	report HZ 6
			Quality	6	Scale 0-10	
			Total quantum of impact	2.18	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																			
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
<i>Ecological Communities</i>																			
Area of community	Yes	2.18	Adjusted hectares	18.2	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	18.2	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%	2.19	100.08%	Yes				
					Future area without offset (adjusted hectares)	9.1	Future area with offset (adjusted hectares)	17.3											
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6					Raw gain	3.00	Confidence in result (%)
<i>Threatened species habitat</i>																			
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset								
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0											
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)						Raw gain		Confidence in result (%)
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
Number of features e.g. Nest hollows, habitat trees	No																		
Condition of habitat Change in habitat condition, but no change in extent	No																		
<i>Threatened species</i>																			
Birth rate e.g. Change in nest success	No																		
Mortality rate e.g. Change in number of road kills per year	No																		
Number of individuals e.g. Individual plants/animals	No																		

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
					Birth rate	0	
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	2.184	2.19	100.08%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>



# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	9.673	Hectares	report HZ 7
			Quality	4	Scale 0-10	
			Total quantum of impact	3.87	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species</i>						
<i>Threatened species</i>						
<i>Threatened species</i>						
<i>Threatened species</i>						
<i>Threatened species</i>						
<i>Threatened species</i>						
<i>Threatened species</i>						
<i>Threatened species</i>						

Offset calculator																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source				
<i>Ecological Communities</i>																				
Area of community	Yes	3.87	Adjusted hectares	32.3	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	32.3	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%								
					Future area without offset (adjusted hectares)	16.2	Future area with offset (adjusted hectares)	30.7	14.54	80%	11.63	3.12								
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	3.00	80%	2.40	1.24	3.88	100.26%	Yes	
<i>Threatened species habitat</i>																				
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0												
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)									
<i>Threatened species</i>																				
<i>Threatened species</i>																				
<i>Threatened species</i>																				
<i>Threatened species</i>																				
<i>Threatened species</i>																				
<i>Threatened species</i>																				
<i>Threatened species</i>																				
<i>Threatened species</i>																				

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	3.8692	3.88	100.26%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Natural Temperate Grassland
EPBC Act status	Critically Endangered
Annual probability of extinction Based on IUCN category definitions	6.8%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	Yes	four habitat zones	Area	0.105	Hectares	report HZ 12
			Quality	4	Scale 0-10	
			Total quantum of impact	0.04	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species</i>						
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																			
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
<i>Ecological Communities</i>																			
Area of community	Yes	FALSE	Adjusted hectares	0.35	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	0.35	Risk of loss (%) without offset	50%	Risk of loss (%) with offset	5%	0.16	80%	0.13	0.03	0.04	100.08%	Yes
					Future area without offset (adjusted hectares)	0.2	Future area with offset (adjusted hectares)	0.3	0.16	80%	0.13	0.03							
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	3.00	80%	2.40	1.24			
<i>Threatened species habitat</i>																			
Area of habitat	No				Time over which loss is averted (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset								
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0											
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)								
<i>Threatened species</i>																			
Number of features e.g. Nest hollows, habitat trees	No																		
Condition of habitat Change in habitat condition, but no change in extent	No																		
Birth rate e.g. Change in nest success	No																		
Mortality rate e.g. Change in number of road kills per year	No																		
Number of individuals e.g. Individual plants/animals	No																		

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
					Birth rate	0	
Mortality rate	0				\$0.00	\$0.00	
Number of individuals	0				\$0.00	\$0.00	
Number of features	0				\$0.00	\$0.00	
Condition of habitat	0				\$0.00	\$0.00	
Area of habitat	0				\$0.00	\$0.00	
Area of community	0.042	0.04	100.08%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

## Appendix 2

### A2.1 Plant species (126 native and 72 weeds) recorded within Lot 3 of TP318450H, Terrinallum

#### Rare or threatened species status:

##### Australian status: (EPBC Act)

VU Vulnerable

##### Victorian status: (VBA, 2010)

v vulnerable

r rare

#### Noxious weed status:

RC Regionally controlled species

Status	Total % cover (weeds)	Scientific Name	Common Name
<b>Rare or Threatened Native Species</b>			
r		<i>Asperula wimmerana</i>	Wimmera Woodruff
v		<i>Coronidium gunnianum</i>	Pale Swamp Everlasting
r		<i>Geranium</i> sp. 3	Pale-flower Crane's-bill
r		<i>Juncus revolutus</i>	Creeping Rush
v		<i>Microseris scapigera</i>	Plains Yam-daisy
Vv		<i>Poa sallacustris</i>	Salt-lake Tussock-grass
<b>Native Species</b>			
		<i>Acaena agnipila</i>	Hairy Sheep's Burr
		<i>Acaena echinata</i>	Sheep's Burr
		<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
		<i>Anthosachne scabra</i>	Common Wheat-grass
		<i>Apium annuum</i>	Annual Celery
		<i>Arthropodium milleflorum</i>	Pale Vanilla-lily
		<i>Arthropodium minus</i>	Small Vanilla-lily
		<i>Arthropodium strictum</i>	Chocolate Lily

Status	Total % cover (weeds)	Scientific Name	Common Name
		<i>Asperula conferta</i>	Common 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
		<i>Azolla filiculoides</i>	Pacific Azolla
		<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
		<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	Sweet Bursaria
		<i>Calocephalus citreus</i>	Lemon Beauty-heads
		<i>Carex bichenoviana</i>	Plains Sedge
		<i>Carex inversa</i>	Knob Sedge
		<i>Chenopodium</i> spp.	Goosefoot
		<i>Chrysocephalum apiculatum</i>	Common Everlasting
		<i>Convolvulus angustissimus</i> subsp. <i>angustissi.</i>	Blushing Bindweed
<b>k</b>		<i>Convolvulus angustissimus</i> subsp. <i>omnigracilis</i>	Slender Bindweed
		<i>Cotula australis</i>	Common Cotula
		<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
		<i>Crassula sieberiana</i>	Sieber Crassula
		<i>Cynoglossum suaveolens</i>	Sweet Hound's-tongue
		<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

Status	Total % cover (weeds)	Scientific Name	Common Name
		<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
		<i>Eryngium ovinum</i>	Blue Devil
		<i>Eryngium vesiculosum</i>	Prickfoot
		<i>Euchiton involucratus</i>	Star Cudweed
		<i>Galium gaudichaudii</i>	Rough Bedstraw
		<i>Geranium homeanum</i>	Rainforest Crane's-bill
		<i>Geranium retrorsum</i>	Grassland 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
		<i>Hydrocotyle laxiflora</i>	Stinking Pennywort
		<i>Hypericum gramineum</i> spp. agg.	Small St John's Wort
		<i>Isolepis cernua</i> var. <i>platycarpa</i>	Broad-fruit Club-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
		<i>Juncus flavidus</i>	Gold Rush
		<i>Juncus holoschoenus</i>	Joint-leaf Rush
		<i>Juncus subsecundus</i>	Finger Rush
		<i>Kennedia prostrata</i>	Running Postman
		<i>Lachnagrostis aemula</i>	Leafy Blown-grass

Status	Total % cover (weeds)	Scientific Name	Common Name
		<i>Lachnagrostis filiformis</i>	Common Blown-grass
		<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
		<i>Lythrum hyssopifolia</i>	Small Loosestrife
		<i>Melicytus</i> sp. aff. <i>dentatus</i> (Volcanic Plain)	Tangled Shrub-violet
		<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass
		<i>Microtis unifolia</i>	Common Onion-orchid
		<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
		<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
		<i>Plantago varia</i>	Variable Plantain
		<i>Poa labillardierei</i> var. <i>labillardierei</i>	Common Tussock-grass
		<i>Poa rodwayi</i>	Velvet Tussock-grass
		<i>Ptilotus spathulatus</i>	Pussy Tails
		<i>Puccinellia perlaxa</i>	Plains Saltmarsh-grass
		<i>Ranunculus amphitrichus</i>	Small River Buttercup
		<i>Ranunculus inundatus</i>	River Buttercup
		<i>Ranunculus pumilio</i>	Ferny Small-flower Buttercup
		<i>Rumex brownii</i>	Slender Dock
		<i>Rumex dumosus</i>	Wiry Dock

Status	Total % cover (weeds)	Scientific Name	Common Name
		<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>	Knead Wallaby-grass
		<i>Rytidosperma laeve</i>	Smooth Wallaby-grass
		<i>Rytidosperma setaceum</i>	Bristly Wallaby-grass
		<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
		<i>Spergularia marina</i>	Lesser Sea-spurrey
		<i>Stellaria angustifolia</i>	Swamp Starwort
		<i>Stuckenia pectinata</i>	Fennel Pondweed
		<i>Themeda triandra</i>	Kangaroo Grass
		<i>Tortula antarctica</i>	Bristly Screw-moss
		<i>Triglochin procera</i>	Common Water-ribbons
		<i>Triglochin striata</i>	Streaked Arrowgrass
		<i>Triquetrella papillata</i>	Common Twine-moss
		<i>Wahlenbergia communis</i>	Tufted Bluebell
		<i>Wahlenbergia gracilis</i>	Sprawling Bluebell
		<i>Wahlenbergia luteola</i>	Bronze Bluebell
		<i>Wahlenbergia multicaulis</i>	Branching Bluebell
		<i>Wahlenbergia</i> spp.	Bluebell
		<i>Walwhalleya proluta</i>	Rigid Panic
		<i>Wilsonia rotundifolia</i>	Round-leaf Wilsonia

Status	Total % cover (weeds)	Scientific Name	Common Name
<b>Weed Species</b>			
	<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
	<1	<i>Arctotheca calendula</i>	Cape Weed
	2	<i>Avena barbata</i>	Bearded Oat
	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
	<1	<i>Carduus pycnocephalus</i>	Slender Thistle
	<1	<i>Cerastium glomeratum</i>	Sticky Mouse-ear Chickweed
	<1	<i>Cicendia quadrangularis</i>	Square Cicendia
	<1	<i>Cirsium vulgare</i>	Spear Thistle
	<1	<i>Conyza bonariensis</i>	Flaxleaf Fleabane
	<1	<i>Cotula bipinnata</i>	Ferny Cotula
	<1	<i>Cotula coronopifolia</i>	Water Buttons
	<1	<i>Crassula natans</i> var. <i>minus</i>	Water Crassula
	1	<i>Cynosurus echinatus</i>	Rough Dog's-tail
	<1	<i>Erodium botrys</i>	Big Heron's-bill
	<1	<i>Galium murale</i>	Small Goosegrass
	1	<i>Helminthotheca echioides</i>	Ox-tongue
	<1	<i>Holcus lanatus</i>	Yorkshire Fog
	2	<i>Hordeum hystrix</i>	Mediterranean Barley-grass
	1	<i>Hypochaeris radicata</i>	Flatweed
	<1	<i>Isolepis levynsiana</i>	Tiny Flat-sedge



Status	Total % cover (weeds)	Scientific Name	Common Name
	<1	<i>Juncus capitatus</i>	Capitate Rush
	<1	<i>Lactuca serriola</i>	Prickly Lettuce
	1	<i>Leontodon taraxacoides</i> subsp. <i>taraxacoides</i>	Hairy Hawkbit
	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
	<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
	<1	<i>Melilotus indicus</i>	Sweet Melilot
	<1	<i>Moenchia erecta</i>	Erect Chickweed
	<1	<i>Parapholis incurva</i>	Coast Barb-grass
	<1	<i>Parentucellia latifolia</i>	Red Bartsia
	<1	<i>Parentucellia viscosa</i>	Yellow Bartsia
	<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
	<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
	<1	<i>Puccinellia fasciculata</i>	Borrer's Saltmarsh-grass
	<1	<i>Ranunculus muricatus</i>	Sharp Buttercup
	<1	<i>Ranunculus trilobus</i>	Large Annual Buttercup
	<1	<i>Romulea rosea</i>	Onion Grass
	<1	<i>Rumex conglomeratus</i>	Clustered Dock

Status	Total % cover (weeds)	Scientific Name	Common Name
	1	<i>Rumex crispus</i>	Curled Dock
	<1	<i>Sagina procumbens</i>	Spreading Pearlwort
	<1	<i>Salvia verbenaca</i>	Wild Sage
	<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
	<1	<i>Taraxacum officinale</i> spp. agg.	Garden Dandelion
	<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
	<1	<i>Triticum aestivum</i>	Wheat
	2	<i>Vulpia bromoides</i>	Squirrel-tail Fescue

## Appendix 3

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### DELWP Offset Site Report and Net Gain Calculator Output

# Offset site report

This report provides information about native vegetation offset sites in accordance with the *Permitted clearing of native vegetation – Biodiversity assessment guidelines*. The information in this report is based on spatial information and site gain in habitat hectares, provided by the offset provider (or their representative), about the offset site to DELWP. Any changes to this input information will change the amount of offsets available at the offset site and will require this report to be reissued.

This report should be read in conjunction with the *Native vegetation offset market fact sheet* that provides information on how offsets are measured and categorised, and how they can be used to satisfy conditions on permits to remove native vegetation and traded as credits in the offset market.

**Date of issue:** 2/04/2015

**Time of issue:** 10:52 AM

**DELWP ref:** BIO\_0100

<b>Project ID</b>	B19710_VegGain
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## Summary of offset site

<b>Total extent</b>	51.170 ha
Remnant patches	51.170 ha
Revegetation	0 ha
<b>Number of biodiversity class areas (BCAs)</b>	21
<b>Catchment Management Authority and Municipal district</b>	Glenelg Hopkins CMA, Moyne Shire Council

# Offset site report

## Summary of biodiversity equivalence units available at offset site

The offset site has the following general and specific biodiversity equivalence units.

<b>General biodiversity equivalence units</b>	20.760 general units*
<b>Specific biodiversity equivalence units</b>	17.490 specific units* of habitat for Brolga 18.770 specific units* of habitat for Striped Legless Lizard 9.544 specific units* of habitat for Growling Grass Frog 17.565 specific units* of habitat for Golden Sun Moth 19.640 specific units* of habitat for Adamson's Blown-grass 13.255 specific units* of habitat for Swamp Sheoak 18.730 specific units* of habitat for Small Milkwort 18.505 specific units* of habitat for Clover Glycine 7.427 specific units* of habitat for Giant Honey-myrtle 10.057 specific units* of habitat for Purple Blown-grass 1.700 specific units* of habitat for Fragrant Leek-orchid 4.529 specific units* of habitat for White Sunray 7.593 specific units* of habitat for Derrinallum Billy-buttons 18.155 specific units* of habitat for Pale Swamp Everlasting 15.501 specific units* of habitat for Spiny Rice-flower 1.031 specific units* of habitat for Corangamite Water Skink

\*Note that some biodiversity equivalence units may be alternates. The use of any biodiversity equivalence units of one type within a BCA will result in a proportional reduction in biodiversity equivalence units of other types within that BCA.

NB: Values presented in tables throughout this document may not add to totals due to rounding.

# Offset site report

## Offset site details

### Biodiversity equivalence units available and attributes by BCA

The biodiversity equivalence units and attributes for each BCA are as follows:

BCA	Offset type	Biodiversity equivalence units	Offset attributes
1	General	X.XXX general units	X.XXX strategic biodiversity score of the offset site
	Specific	X.XXX specific units	Habitat for species number, common name, scientific name

### Site gain in habitat hectares

Site gain in habitat hectares is calculated for each biodiversity class area (BCA) in the offset site using the extent and site gain per hectare scores in the GIS data provided.

BCA	Site gain per hectare*	Extent (ha)	Site gain in habitat hectares
1	<i>See excel spreadsheet – ‘Gain in habitat hectares’ tab</i>		X.XXX
2			X.XXX
<b>TOTAL</b>			<b>X.XXX</b>

\* This value has been calculated using the site gain per hectare values for each habitat zone as provided with the GIS file of the offset site. The site gain per hectare value for a BCA is calculated from the weighted average of site gain per hectare values for all habitat zones that intersect with the BCA.

# Offset site report

## Offset site biodiversity equivalence unit calculations by biodiversity class area

The general biodiversity equivalence units for the biodiversity class area are calculated by multiplying the site gain in habitat hectares by the strategic biodiversity score.

Where a BCA has specific units for one or more rare or threatened species, the specific biodiversity equivalence units for each BCA is calculated by multiplying the site gain in habitat hectares by the habitat importance score for each of these species.

BCA	Site gain in habitat hectares	Offset type	General offset attributes	Specific offset attributes		Biodiversity equivalence units*
			Strategic biodiversity score	Species number, Species common name, Species scientific name	Habitat importance score	
1	X.XXX	General	X.XXX			X.XXX general units
			<i>See excel spreadsheet – 'BEU calculations by BCA' tab</i>			specific units
				Species A Common Name, Species A Scientific Name		

\*Note that biodiversity equivalence units within a BCA are alternates. The use of any biodiversity equivalence units of one type within a BCA will result in a proportional reduction in biodiversity equivalence units of other types within that BCA.

## Next steps

Offset sites must meet eligibility criteria as outlined in the *Native vegetation gain scoring manual, version 1* available on the DELWP website and any other relevant requirements. Eligible offset sites that are intended to be banked or sold as credits must be registered on the native vegetation credit register. A habitat hectare assessment is required to be undertaken before any offset can be registered on the credit register.

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For more information contact the DELWP Customer Service Centre 136 186

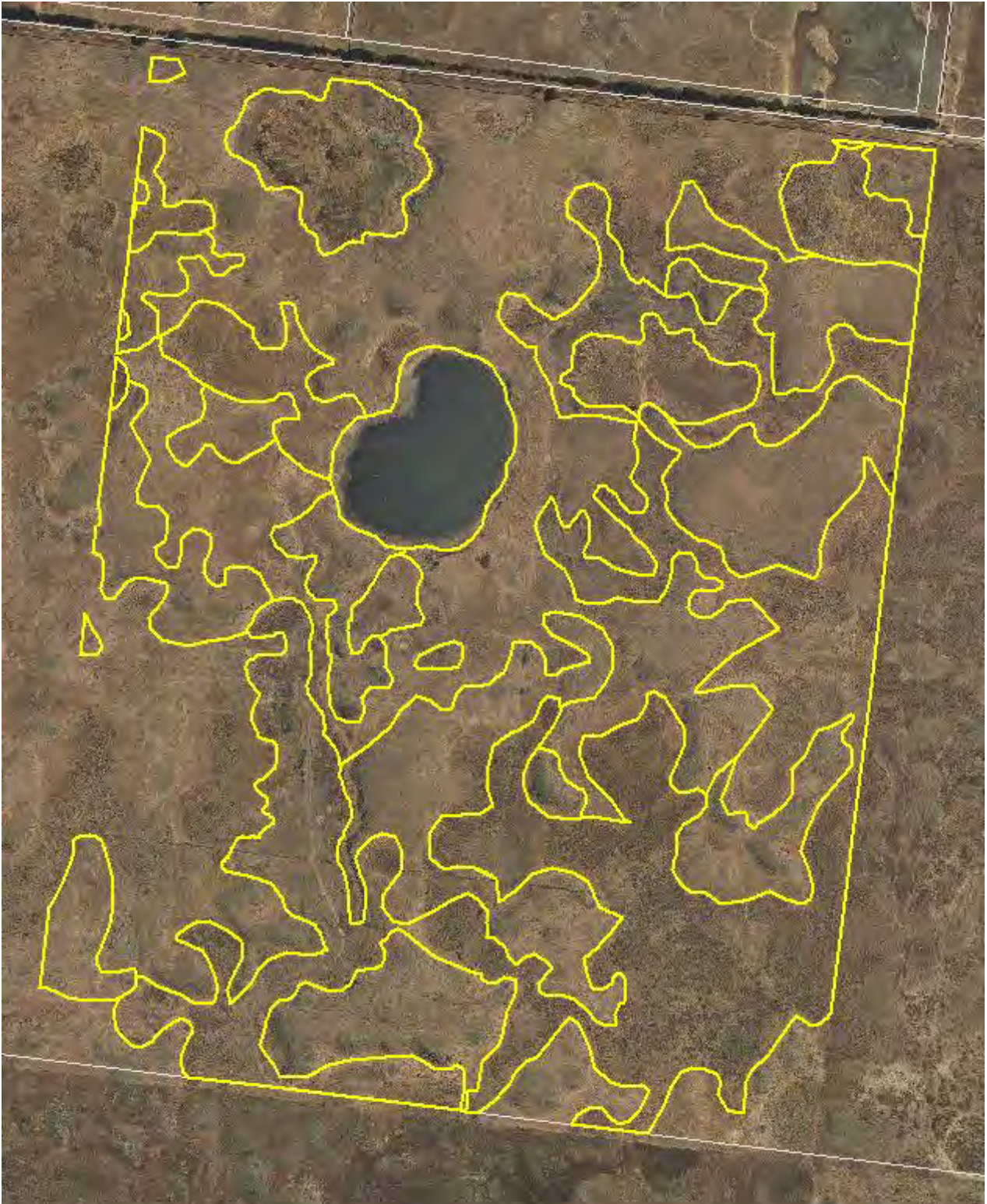
[www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

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## Appendix 1 – Images of marked native vegetation

**Image 1. Aerial photograph showing marked native vegetation**





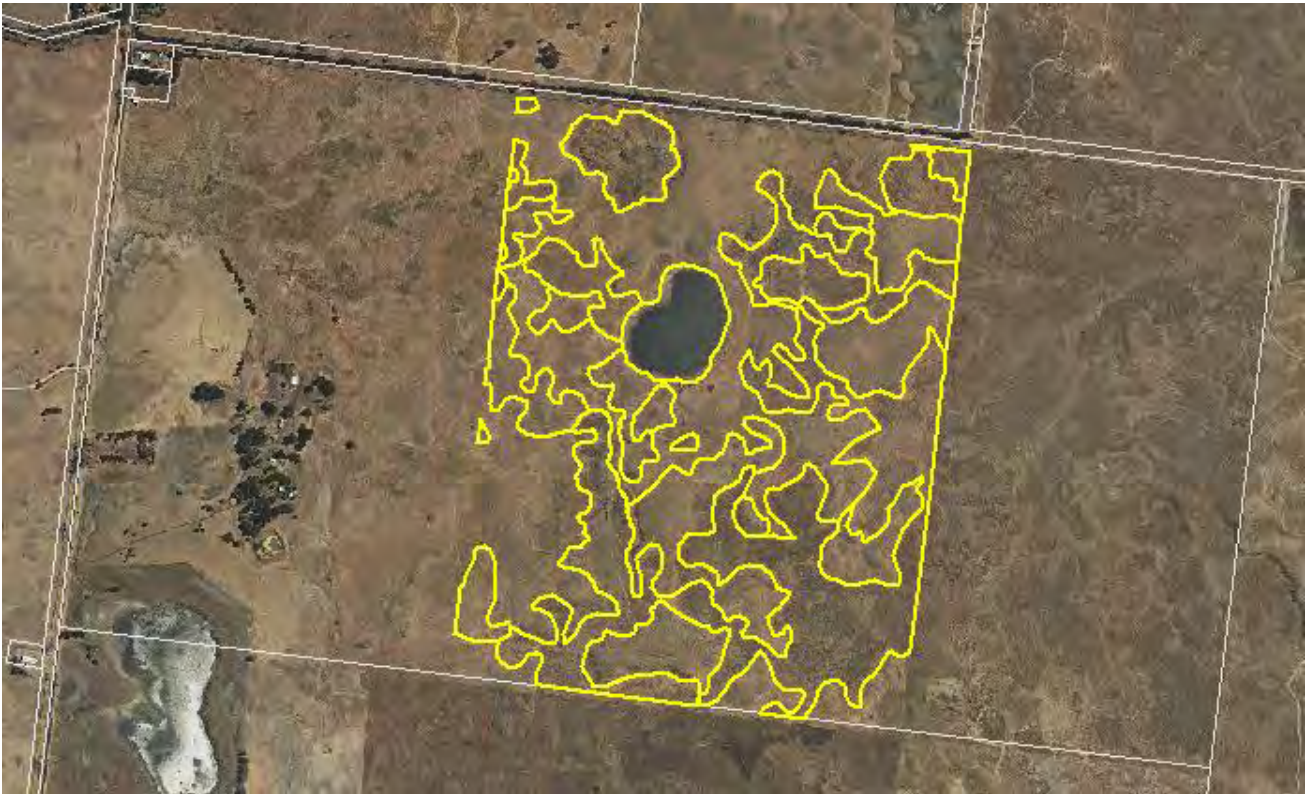
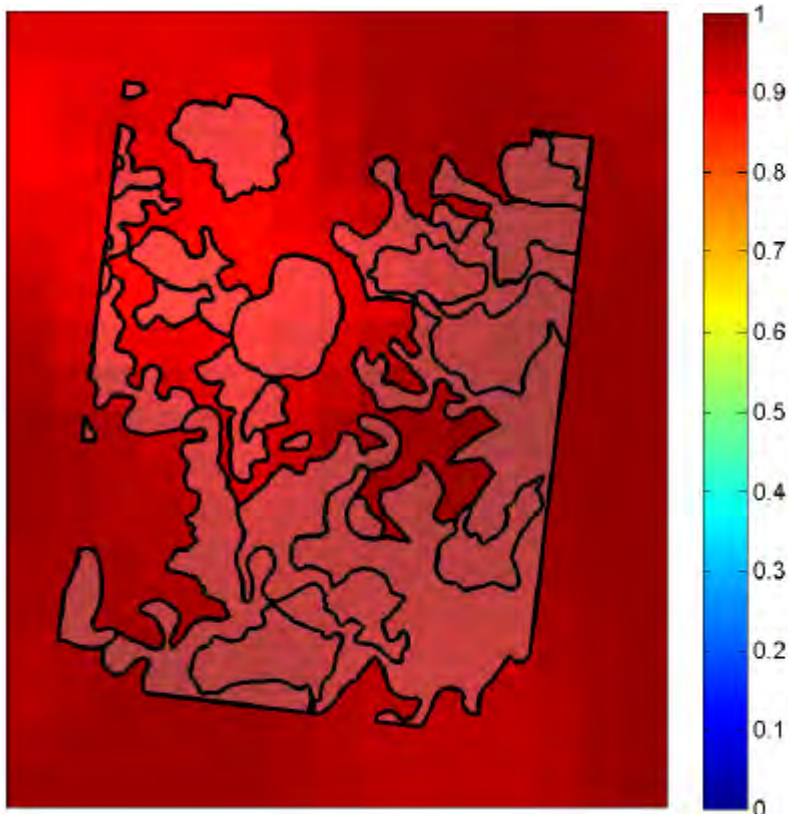


Image 2. Strategic biodiversity score map



# Offset site report

Image 3. Habitat importance map – 10177, Brolga, *Grus rubicunda*

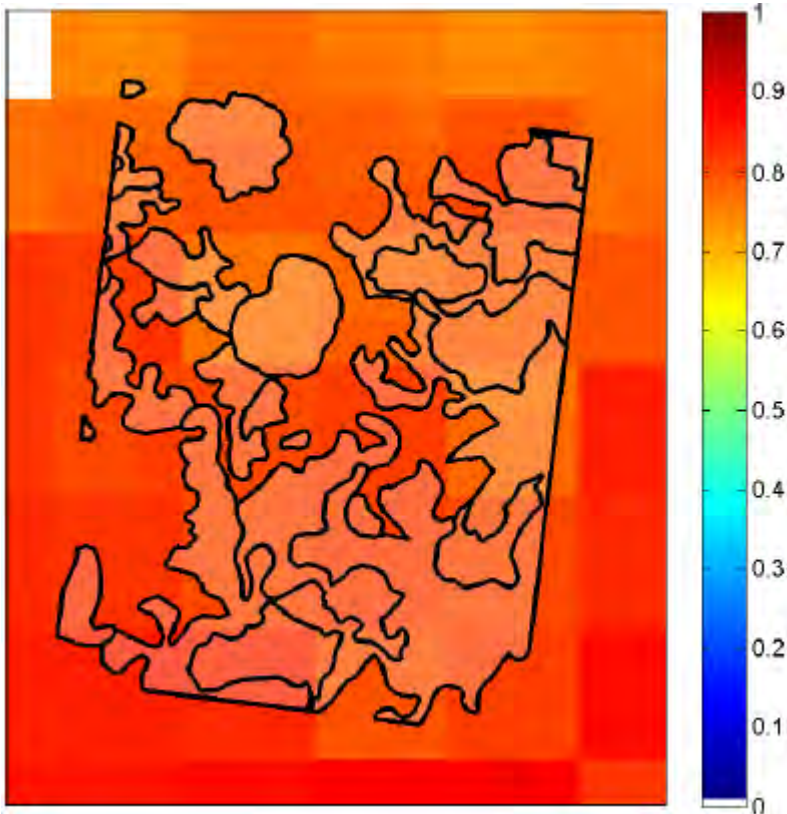
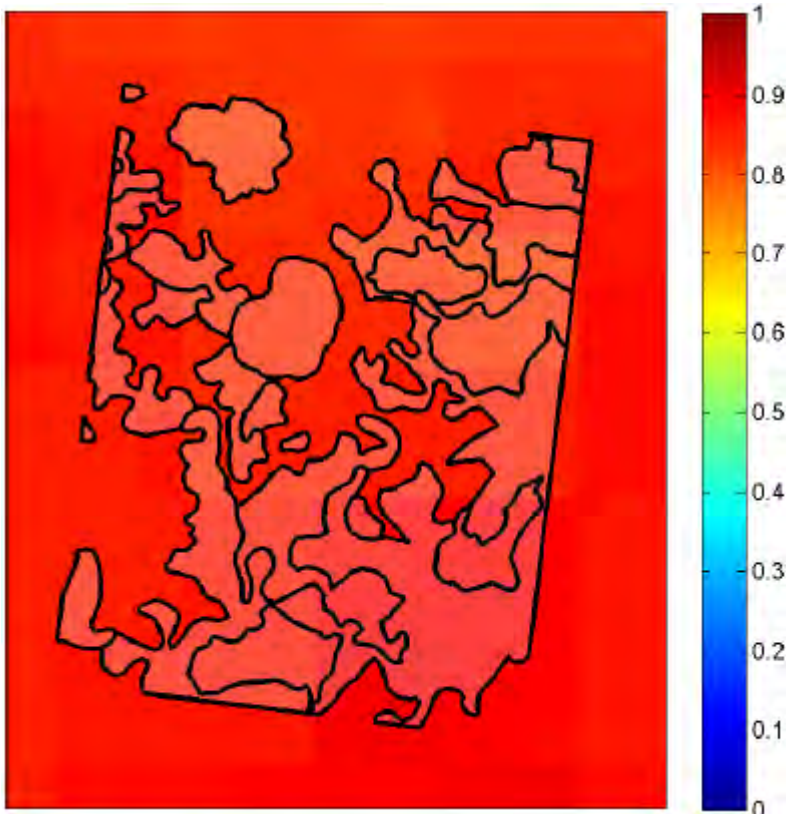


Image 4. Habitat importance map – 12159, Striped Legless Lizard, *Delma impar*



# Offset site report

Image 5. Habitat importance map – 13207, Growling Grass Frog, *Litoria raniformis*

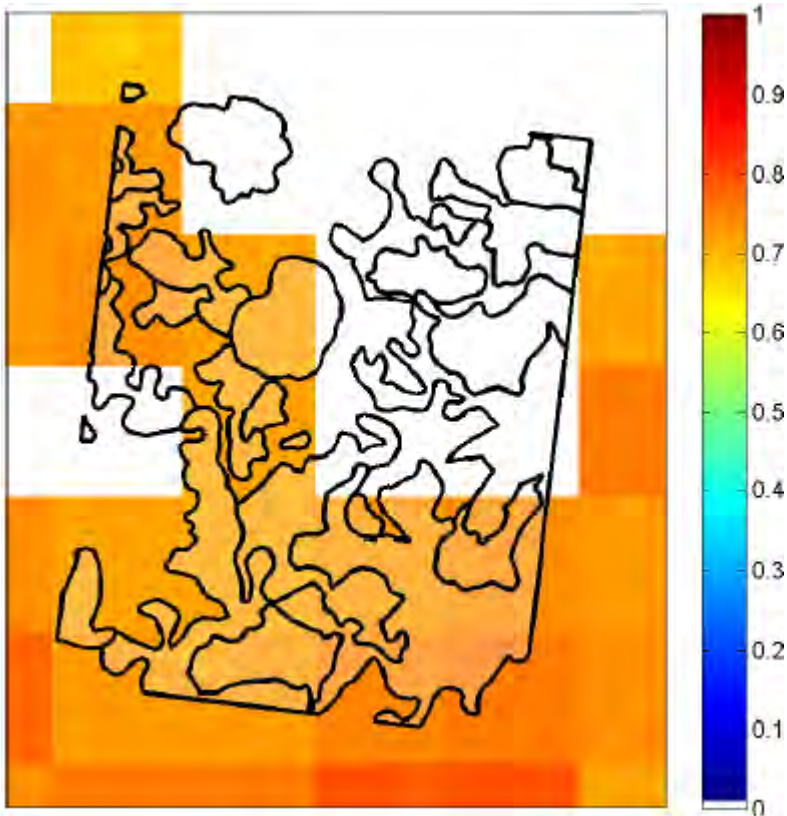
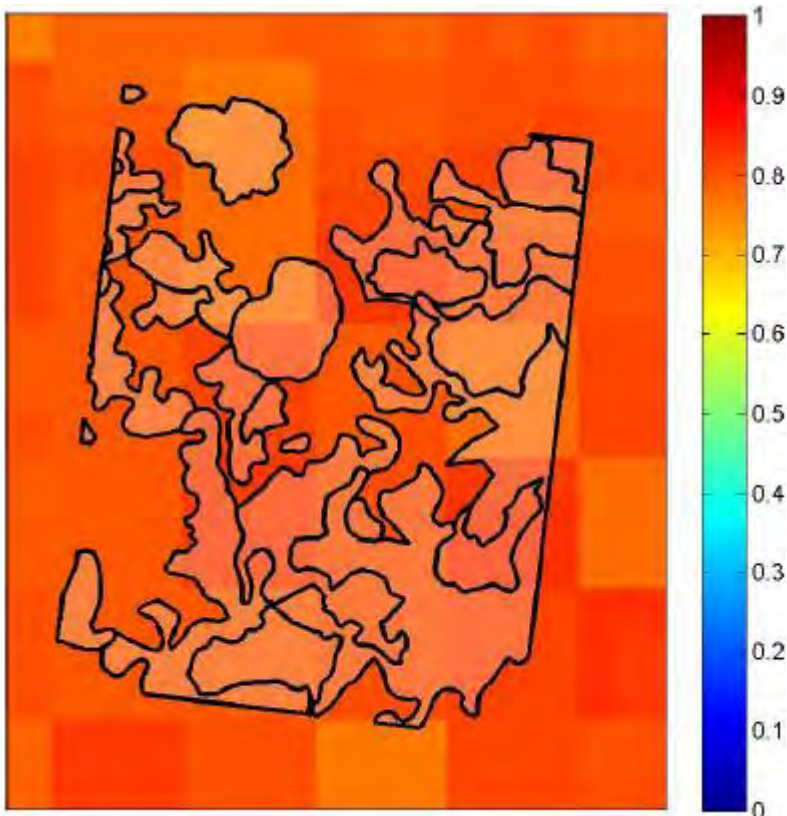


Image 6. Habitat importance map – 15021, Golden Sun Moth, *Synemon plana*



# Offset site report

Image 7. Habitat importance map – 500148, Adamson's Blown-grass, *Lachnagrostis adamsonii*

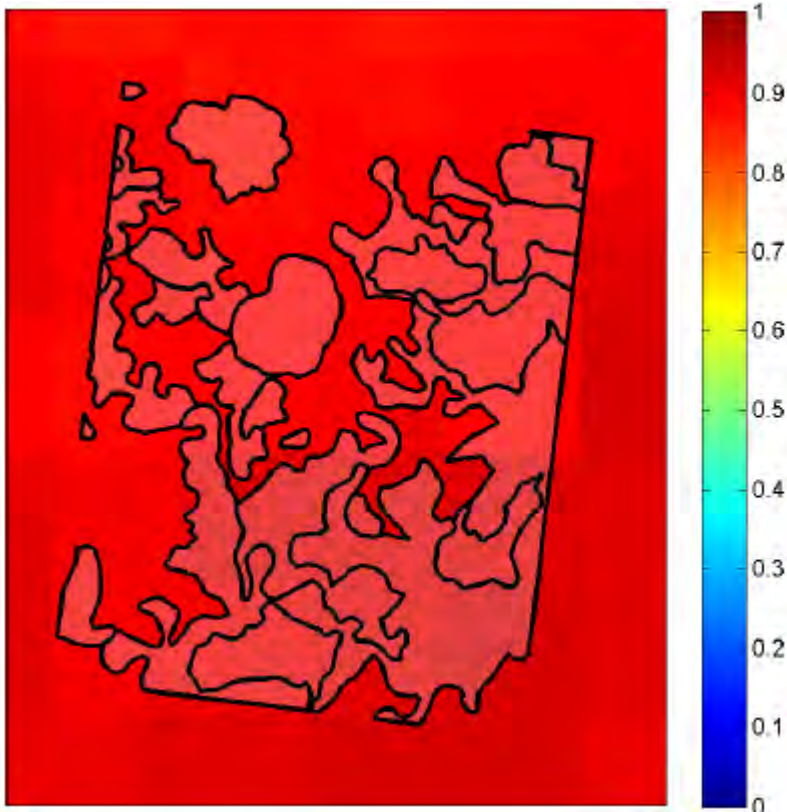
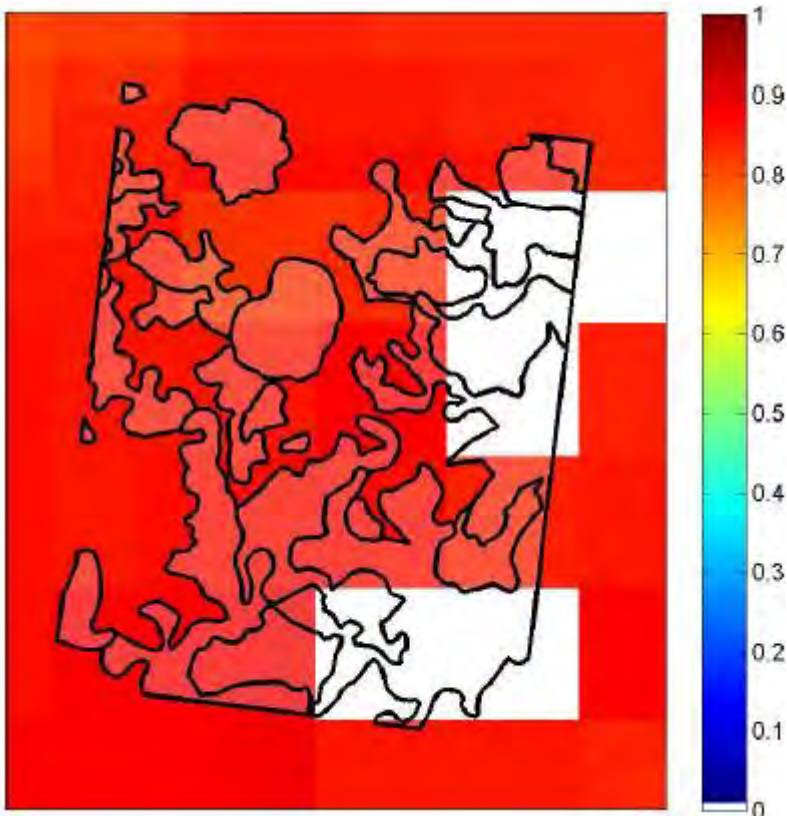


Image 8. Habitat importance map – 500682, Swamp Sheoak, *Casuarina obesa*



# Offset site report

Image 9. Habitat importance map – 500798, Small Milkwort, *Comesperma polygaloides*

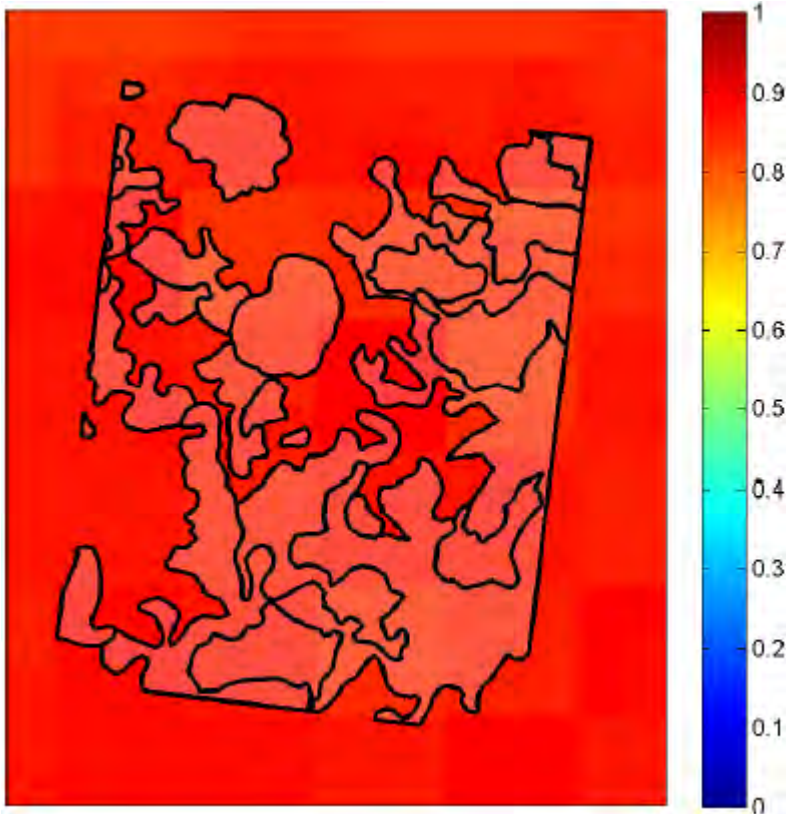
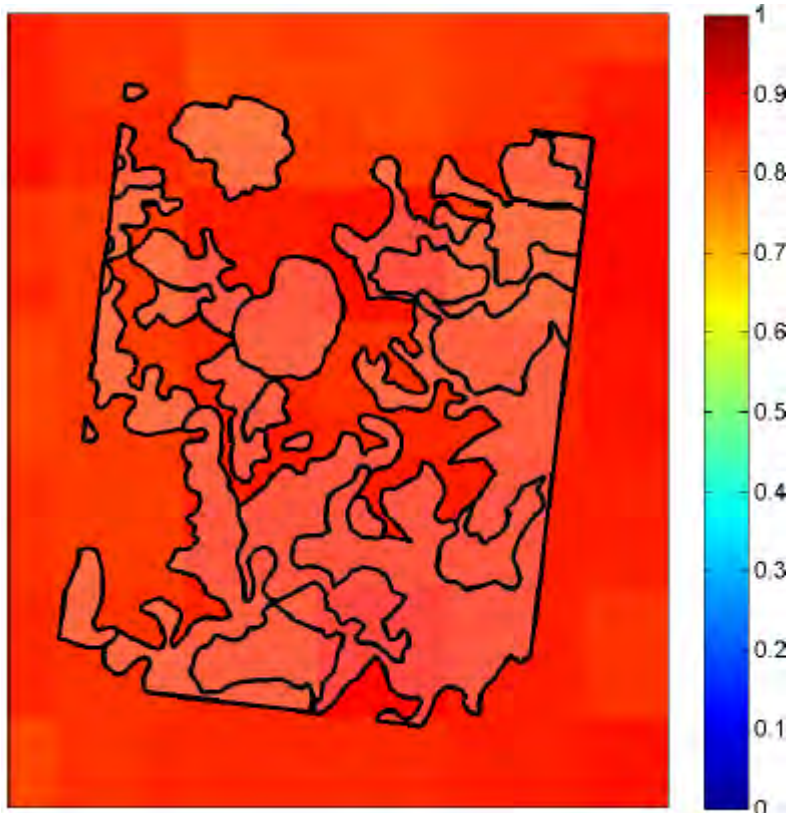


Image 10. Habitat importance map – 501456, Clover Glycine, *Glycine latrobeana*



# Offset site report

Image 11. Habitat importance map – 502145, Giant Honey-myrtle, *Melaleuca armillaris* subsp. *armillaris*

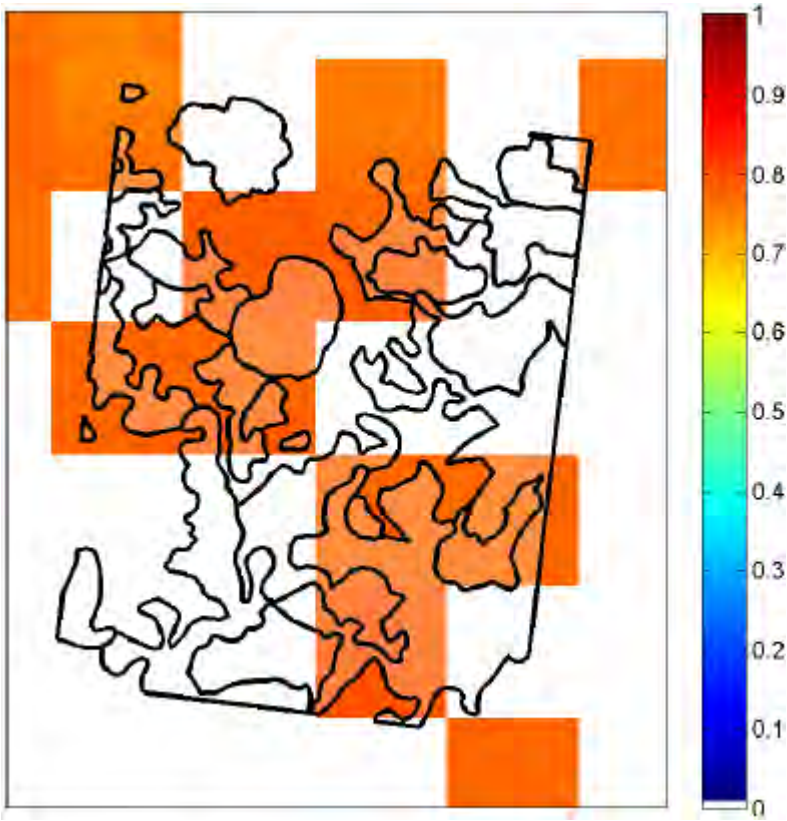
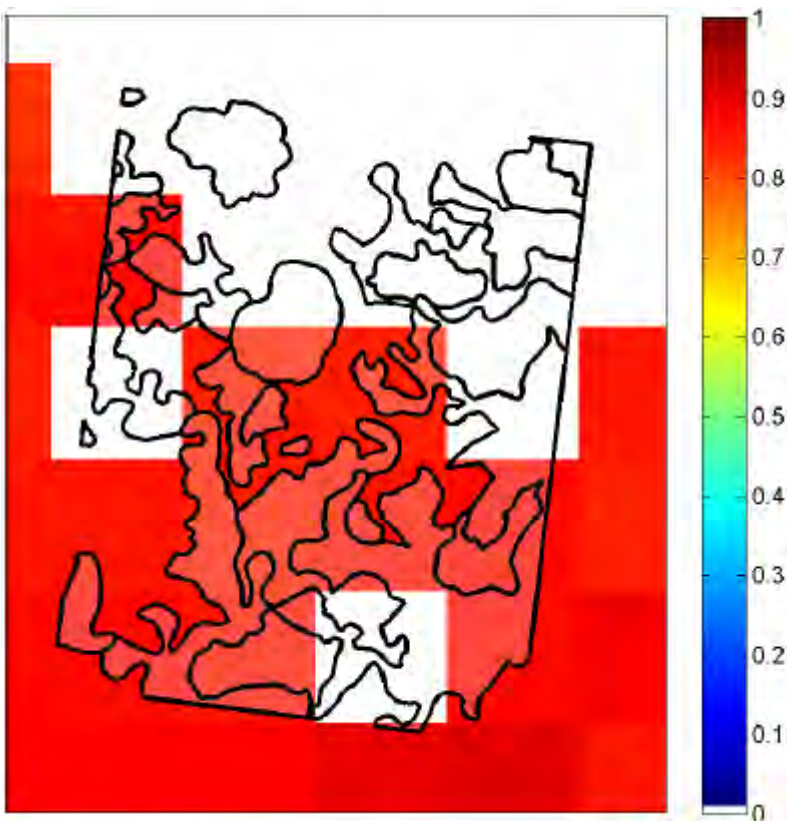


Image 12. Habitat importance map – 504206, Purple Blown-grass, *Lachnagrostis punicea* subsp. *punicea*

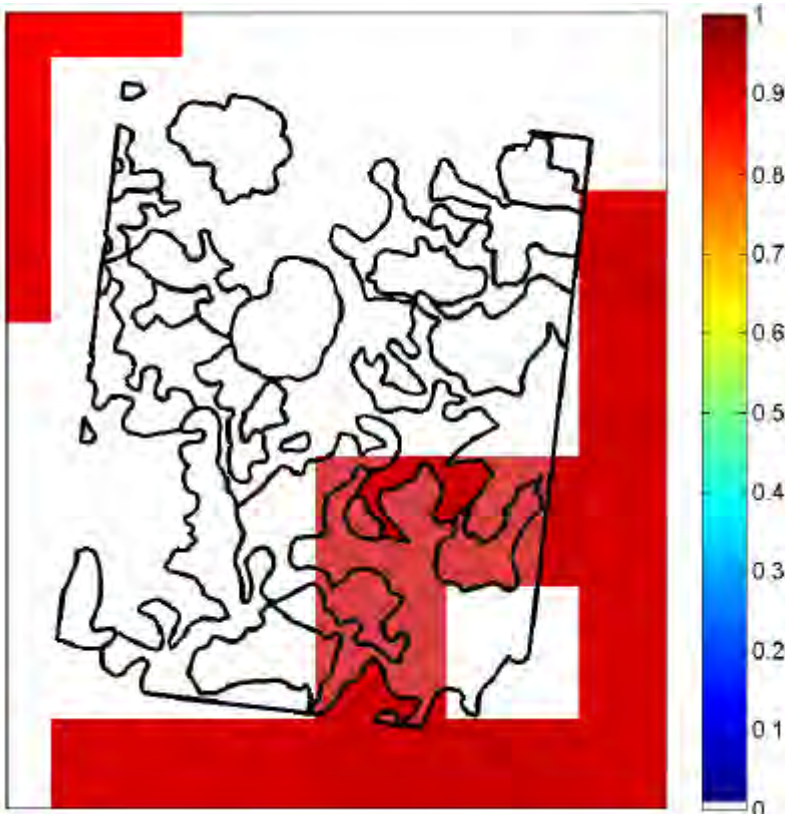


# Offset site report

Image 13. Habitat importance map – 504567, Fragrant Leek-orchid, *Prasophyllum suaveolens*



Image 14. Habitat importance map – 504581, White Sunray, *Leucochrysum albicans* var. *tricolor*

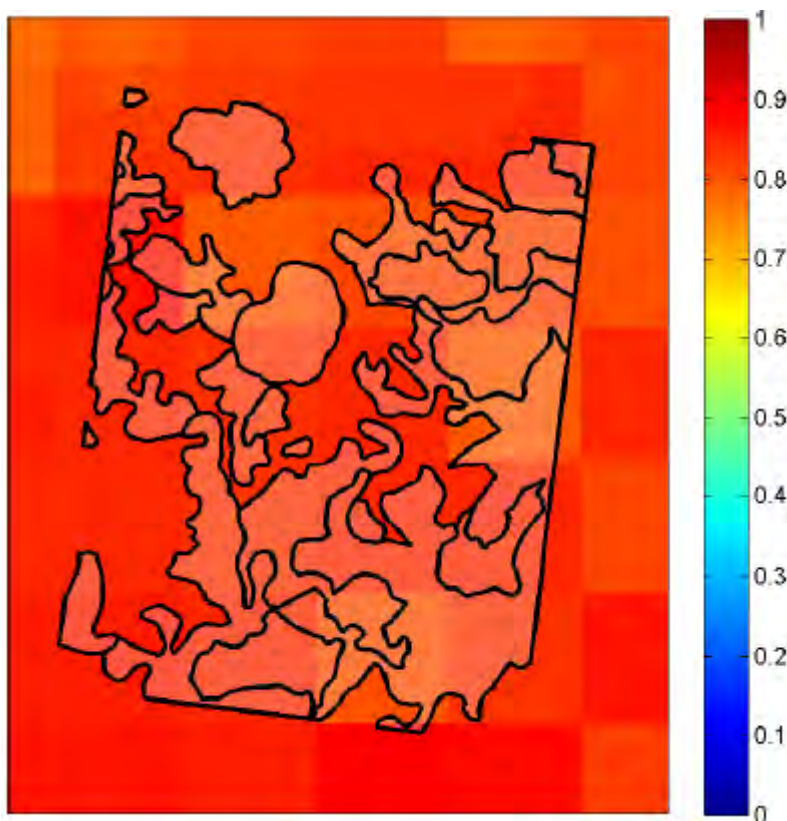


# Offset site report

Image 15. Habitat importance map – 504651, Derrinallum Billy-buttons, *Craspedia* sp. 2



Image 16. Habitat importance map – 504655, Pale Swamp Everlasting, *Coronidium scorpioides* 'aff. *rutidolepis* (Lowland Swamps)' variant





# Offset site report

Image 17. Habitat importance map – 504823, Spiny Rice-flower, *Pimelea spinescens* subsp. *spinescens*

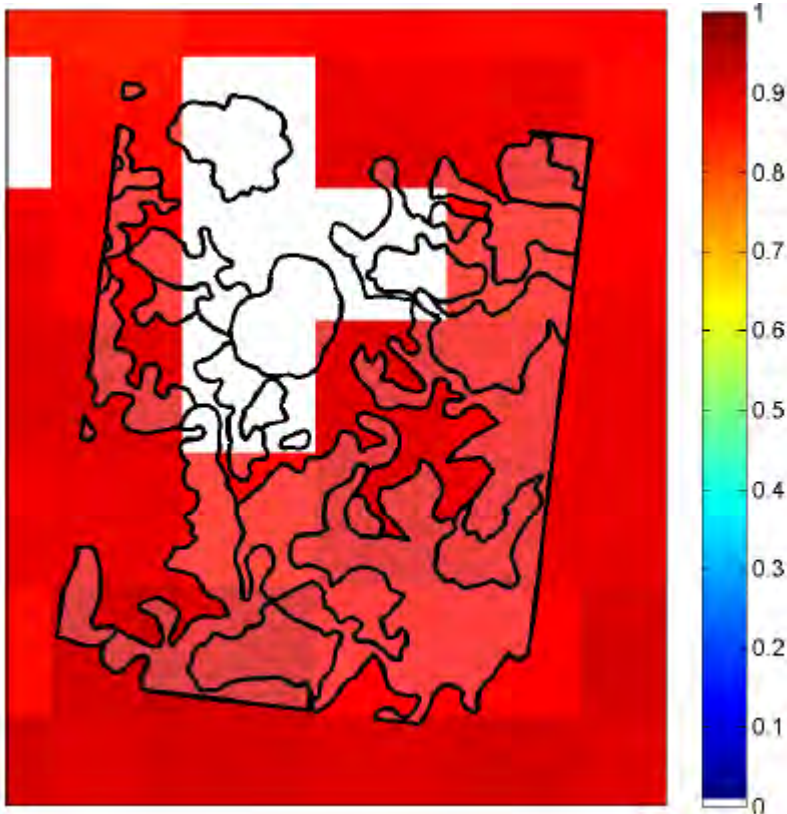
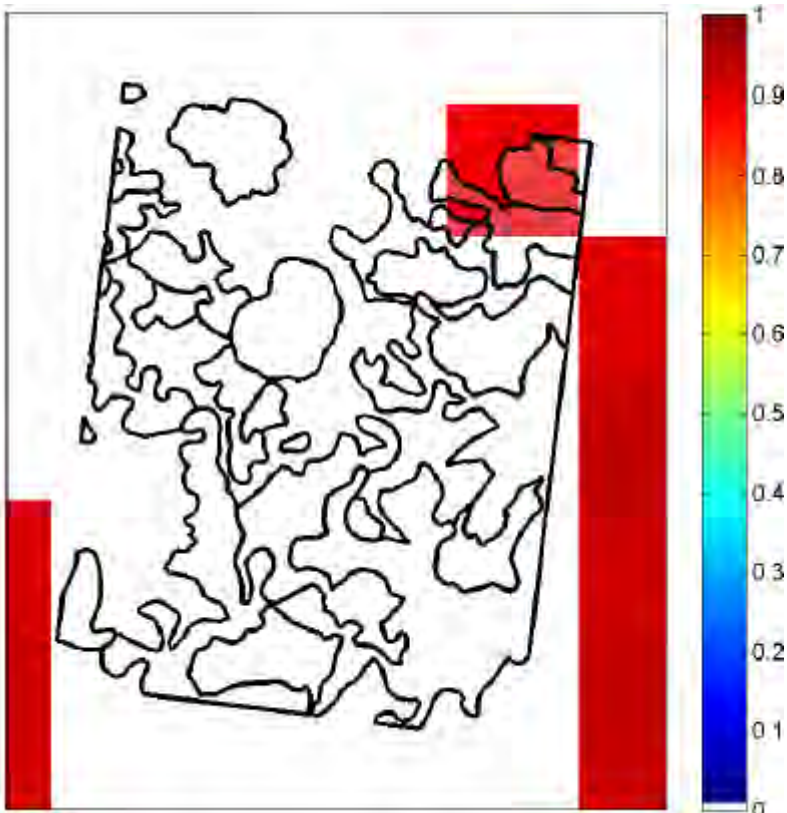


Image 18. Habitat importance map – 62958, Corangamite Water Skink, *Eulamprus tympanum marnieae*



# Offset site report

## Glossary

<b>Alternate offset types</b>	Offset types within a biodiversity class area (BCA) are alternates. The use of one offset type will result in the proportional reduction of all other offset types within the BCA. For example, in a BCA that has 1 general unit and 2 specific units for a particular rare or threatened species, if all of the general units are used (100 per cent) there will be no specific units remaining, as these specific units will also reduce by 100 per cent. Alternatively, if in this same BCA only half the general units were used (50 per cent) then there will be 0.5 general units and 1 specific units remaining, half the original values.
<b>Biodiversity Class Area (BCA)</b>	The BCA is the organisational unit of an offset site. BCAs are determined by the unique combination of general and specific biodiversity equivalence units calculated across the offset site.
<b>Condition score</b>	This is the site-assessed condition score for the native vegetation. Each habitat zone in the offset site is assigned a condition score according to the habitat hectare assessment method. This information has been provided by or on behalf of the applicant in the GIS file submitted for processing.
<b>General biodiversity equivalence units (general units)</b>	<p>The general biodiversity equivalence units (general units) quantify the relative overall contribution that the protection and management of native vegetation at the offset site makes to Victoria's biodiversity. The general biodiversity equivalence units is calculated as follows:</p> $\text{General biodiversity equivalence units} = \text{site gain in habitat hectares} \times \text{strategic biodiversity score}$
<b>General offset attributes</b>	The attributes of a general offset site must match those in an offset requirement that is a condition on a permit to remove native vegetation, in order for that offset site to be used to satisfy the permit condition. General offsets must be located in the same Catchment Management Authority boundary or Municipal District (local council) as the clearing site. They must also have a strategic biodiversity score that is at least 80 per cent of the clearing site. The strategic biodiversity score of a general offset is determined by the biodiversity class area the units are sold from.
<b>Habitat importance score</b>	The habitat importance score is a measure of the relative importance of the habitat located on a site for a particular rare or threatened species, compared to all other habitat for that species. The habitat importance score for a species is a weighted average value calculated from the habitat importance map for that species. The habitat importance score is calculated for each biodiversity class area where the habitat importance map indicates that species habitat occurs and where the protection of habitat across the offset agreement is greater than the threshold test.
<b>Habitat zone</b>	Habitat zone is a discrete contiguous area of native vegetation that: <ul style="list-style-type: none"><li>• is of a single Ecological Vegetation Class</li><li>• has the same measured condition.</li></ul>
<b>Offset type</b>	There are two types of offsets, general offset and specific offsets. All offset sites can be general offsets. Sites that are mapped as habitat for specific rare or threatened species can be specific offsets for those species habitat.

# Offset site report

**Site gain in habitat hectares** Site gain in habitat hectares is a site-based measure that combines extent and site gain per hectare of native vegetation at an offset site. The site gain in habitat hectares measures both the current status of native vegetation at a site and the potential site gain from the protection and management of the native vegetation at that site. The condition of a site, or the gain in condition due to protection and management actions are multiplied by the extent (area in hectares) of native vegetation to calculate the site gain in habitat hectares value. For a biodiversity class area the site gain in habitat hectares is determined using the following formula:

$$\text{Site gain in habitat hectares} = \text{total extent (hectares)} \times \text{site gain per hectare}$$

**Site gain per hectare** This is the site-assessed gain per hectare for the native vegetation based on the agreed management and security commitments. Each habitat zone in the offset proposal is assigned a site gain per hectare according to the habitat hectare assessment and gain scoring methods. This is a number between 0 and 1. This information has been provided by or on behalf of the applicant in the GIS file. These values are aggregated to the level of the BCA in order to calculate offset amounts at the offset site.

**Specific offset attributes** The attributes of a specific offset site must match those in an offset requirement that is a condition on a permit to remove native vegetation, in order for that offset site to be used to satisfy the permit condition. Specific offsets must be located in the mapped habitat for the species that has triggered the specific offset requirement.

**Specific biodiversity equivalence units (specific units)** Specific biodiversity equivalence units (specific units) are associated with a particular rare or threatened species habitat. The specific biodiversity equivalence units quantifies the relative overall contribution that the protection and management of native vegetation at an offset site makes to the habitat of the relevant rare or threatened species. Specific units are calculated for each species in each biodiversity class area where the result of the threshold test is greater than 0.0025 per cent. Specific units are calculated as follows:

$$\text{Specific biodiversity equivalence units}_{\text{species } x} = \text{site gain in habitat hectares} \times \text{habitat importance score}_{\text{species } x}$$

**Strategic biodiversity score** This is the weighted average strategic biodiversity score of the marked native vegetation. The strategic biodiversity score has been calculated from the *Strategic biodiversity map* for each BCA. The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The *Strategic biodiversity map* is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

**Threshold test** By default, a threshold test is applied to offset sites to limit the number of rare or threatened species for which specific biodiversity equivalence units are calculated. This is done to make organising and trading credits more manageable. The test determines if the offset site can generate specific habitat protection for any rare or threatened species above a threshold. The threshold is set at 0.0025 per cent of the total habitat for a species. When the proportion of habitat protected is above the threshold, specific biodiversity equivalence units are calculated for that species.

# Offset site report

**Total extent  
(hectares) for  
calculating site  
gain in habitat  
hectares**

This is the total area of offset site native vegetation in hectares.

The total extent of native vegetation is an input to calculating the site gain in habitat hectares at a site and in calculating the total gain in general and specific biodiversity equivalence units.

BCA	Site gain per hectare	Extent (ha)	Site gain in habitat hectares
1	0.402	2.184	0.878
2	0.415	2.975	1.236
3	0.417	2.016	0.840
4	0.429	3.300	1.417
5	0.452	1.578	0.713
6	0.426	1.009	0.430
7	0.402	2.337	0.941
8	0.402	0.000	0.000
9	0.433	6.553	2.836
10	0.420	4.046	1.700
11	0.402	0.067	0.027
12	0.420	1.945	0.818
13	0.424	5.445	2.307
14	0.432	3.259	1.408
15	0.422	1.836	0.775
16	0.429	6.001	2.573
17	0.427	3.942	1.681
18	0.421	0.044	0.019
19	0.442	1.409	0.623
20	0.421	1.222	0.514
21	0.458	0.001	0.000
<b>TOTAL</b>			<b>21.735</b>

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:   
 SITE CODE (number):   
 SITE LOCATION/ADDRESS:   
 PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)   
 Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:   
 If "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*  
 (b)  Retain all standing trees - dead or alive  
 (c)  Retain all fallen timber/branches/leaf litter  
 (d)  Eliminate high threat woody weeds & control pest animals  
 (e)  Eliminate all identified high threat weeds & control pest animals  
 (f)  Supplementary planting  
 (g)  Any additional site-specific management actions  
 (h)  If (h) is selected, select management actions from below:

ATTENTION

- Ecological thinning
- Ecological burning
- Ecological flooding
- Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
Current Habitat Score

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	10	
Lack of weeds	15	7	15	
Recruitment	10	6	10	
Organic litter	5	3	5	
Logs	5	na		
Landscape context	25	10	17	
Standardised Habitat Score	100	71		

**STEP 12**  
Gain Scores for Remnant Management

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	1		2.5		
Lack of weeds	na		2		
Recruitment	1		0		
Organic litter	0.5		0		
Logs	na		na		
Total	2.5		14.5		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	23.12
Prior Mgt Gain/ha	7.1
Security Gain/ha	7.1
<b>Total Gain/ha</b>	<b>37.32</b>

Calculating the total gain  
**Total Gain (HHa) 1.04**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:



# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:   
 SITE CODE (number):   
 SITE LOCATION/ADDRESS:   
 PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)   
 Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:   
 If "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*  
 (b)  Retain all standing trees - dead or alive  
 (c)  Retain all fallen timber/branches/leaf litter  
 (d)  Eliminate high threat woody weeds & control pest animals  
 (e)  Eliminate all identified high threat weeds & control pest animals  
 (f)  Supplementary planting  
 (g)  Any additional site-specific management actions  
 (h)  Any additional site-specific management actions

ATTENTION

If (h) is selected, select management actions from below:

- Ecological thinning
- Ecological burning
- Ecological flooding
- Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
**Current Habitat Score**

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	15	
Lack of weeds	15	7	4	
Recruitment	10	6	6	
Organic litter	5	3	2	
Logs	5	na		
Landscape context	25	10	17	
Standardised Habitat Score	100		54	

**STEP 12**  
**Gain Scores for Remnant Management**

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	7.5		1.25		
Lack of weeds	na		1		
Recruitment	3		1		
Organic litter	1		1		
Logs	na		na		
Total	11.5		14.25		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	<b>35.02</b>
Prior Mgt Gain/ha	<b>5.4</b>
Security Gain/ha	<b>5.4</b>
<b>Total Gain/ha</b>	<b>45.82</b>

Calculating the total gain  
**Total Gain (HHa) 8.88**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:



# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:   
 SITE CODE (number):   
 SITE LOCATION/ADDRESS:   
 PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)   
 Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:   
 If "Other" is selected: EVC:  Standardiser:   
 - enter EVC & Standardiser  
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*  
 (b)  Retain all standing trees - dead or alive  
 (c)  Retain all fallen timber/branches/leaf litter  
 (d)  Eliminate high threat woody weeds & control pest animals  
 (e)  Eliminate all identified high threat weeds & control pest animals  
 (f)  Supplementary planting  
 (g)  Any additional site-specific management actions  
 (h)  If (h) is selected, select management actions from below:

ATTENTION

- Ecological thinning
- Ecological burning
- Ecological flooding
- Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
 Current Habitat Score

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	15	
Lack of weeds	15	7	7	
Recruitment	10	6	6	
Organic litter	5	3	3	
Logs	5	na		
Landscape context	25	10	17	
Standardised Habitat Score	100		59	

**STEP 12**  
 Gain Scores for Remnant Management

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	1.5		2.5		
Lack of weeds	na		2		
Recruitment	0.6		2		
Organic litter	0.3		2		
Logs	na		na		
Total	2.4		18.5		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	28.42
Prior Mgt Gain/ha	5.9
Security Gain/ha	5.9
<b>Total Gain/ha</b>	<b>40.22</b>

Calculating the total gain  
**Total Gain (HHa) 11.12**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:





# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:   
 SITE CODE (number):   
 SITE LOCATION/ADDRESS:   
 PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)   
 Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:   
 If "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*  
 (b)  Retain all standing trees - dead or alive  
 (c)  Retain all fallen timber/branches/leaf litter  
 (d)  Eliminate high threat woody weeds & control pest animals  
 (e)  Eliminate all identified high threat weeds & control pest animals  
 (f)  Supplementary planting  
 (g)  Any additional site-specific management actions  
 (h)  Any additional site-specific management actions

ATTENTION

If (h) is selected, select management actions from below:

- Ecological thinning
- Ecological burning
- Ecological flooding
- Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
 Current Habitat Score

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	10	20	
Lack of weeds	15	7	15	
Recruitment	10	6	0	
Organic litter	5	3	3	
Logs	5	na		
Landscape context	25	10	17	
Standardised Habitat Score	100		69	

**STEP 12**  
 Gain Scores for Remnant Management

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	2		2.5		
Lack of weeds	na		2		
Recruitment	0		2		
Organic litter	0.3		2		
Logs	na		na		
Total	2.3		18.5		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	28.29
Prior Mgt Gain/ha	6.9
Security Gain/ha	6.9
<b>Total Gain/ha</b>	<b>42.09</b>

Calculating the total gain  
**Total Gain (HHa) 0.57**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:

## Appendix 4

### A5.1 DELWP Owner Monitoring and Reporting Form

Landowner of offset site	
Location and address of offset site [1]	
Offset site number (if applicable)	
Offset plan reference number (if applicable)	
Responsible Authority	
Report #	
Signature	
Date	

Please attach a copy of Management Action Table from the Offset Plan with information on which actions have been completed for year/s of this reporting period.

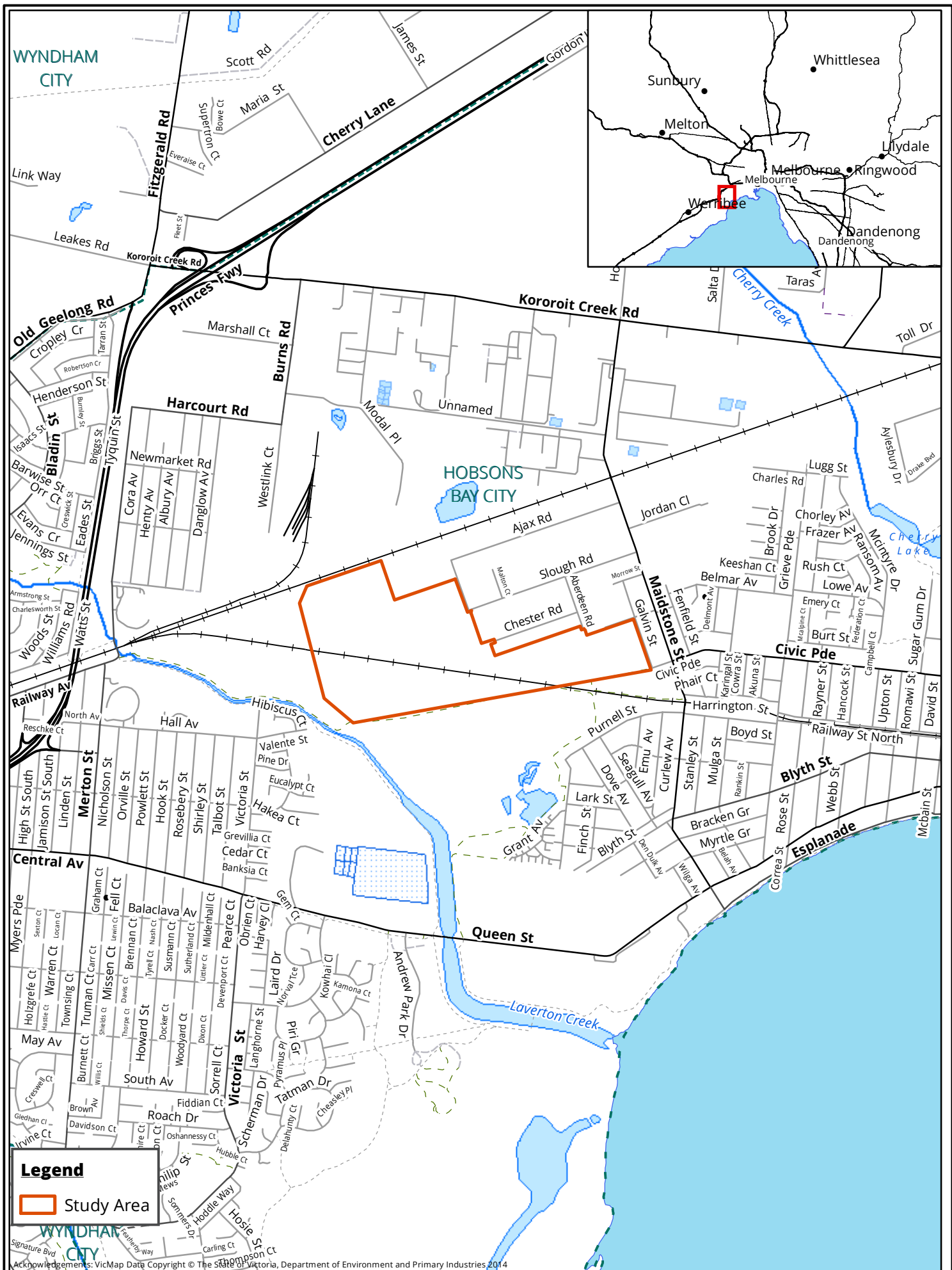
Describe specific monitoring results from surveys undertaken, survival rates of revegetation works, fencing work, success of weed and pest animal control work, successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring techniques...) and any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing...).

Provide photographs showing evidence of works.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified explain the reasons why and what program of action/s will be undertaken to implement the action. If no action is to be undertaken please explain the reason/s and how the targets specified will be met.

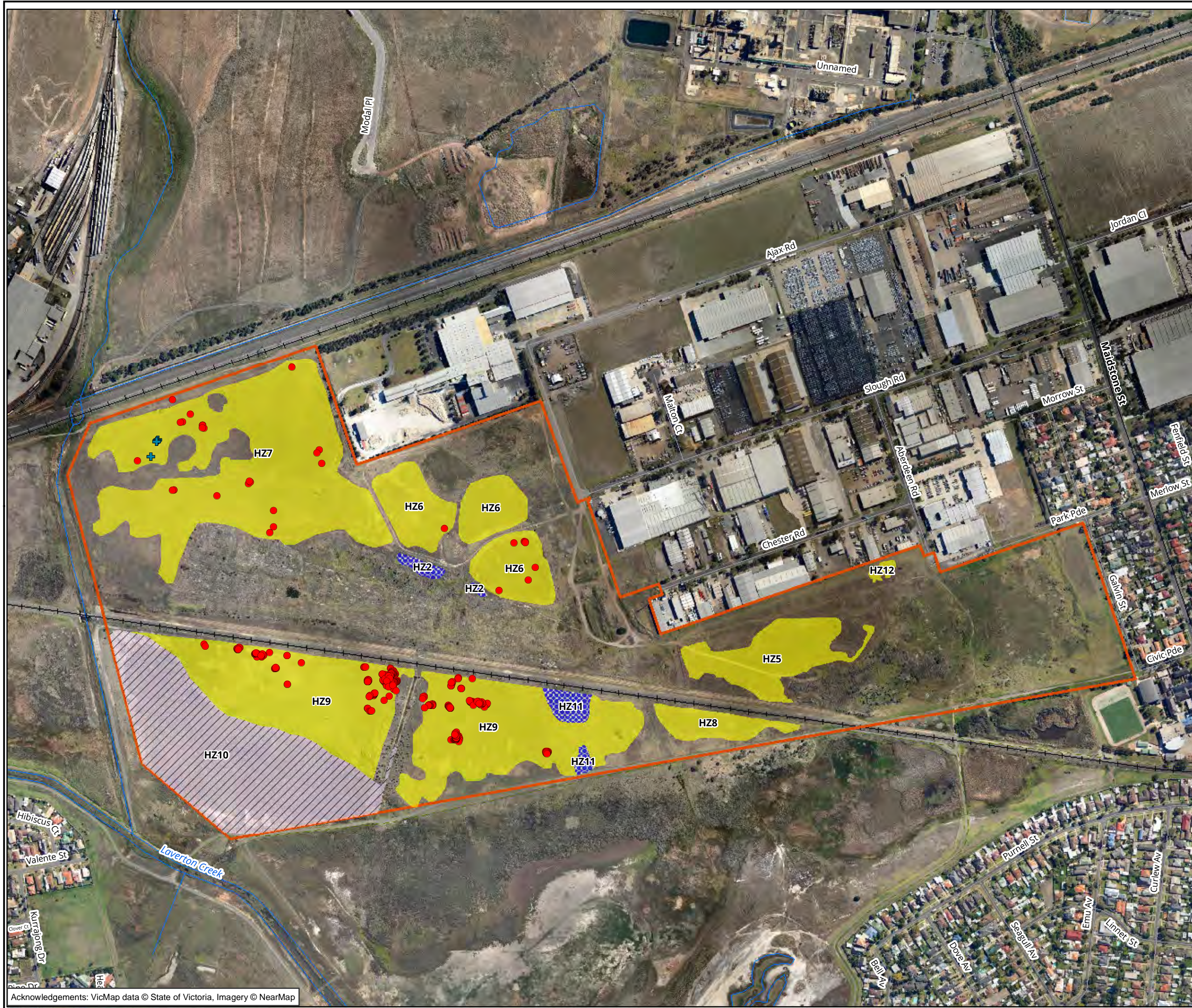
## Figures

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**Legend**  
 Study Area

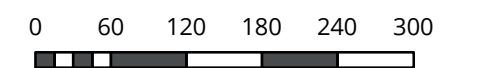
Figure 1: Location of the Ajax Road industrial subdivision, Altona, Victoria.



**Legend**

- Study Area
- Significant flora record
- + Arching Flax-lily
- Spiny Rice-flower
- Ecological Vegetation Class
- Brackish Wetland
- Plains Grassy Wetland
- Plains Grassland

**Figure 2: Location of biodiversity values within the Ajax Road industrial subdivision, Altona.**

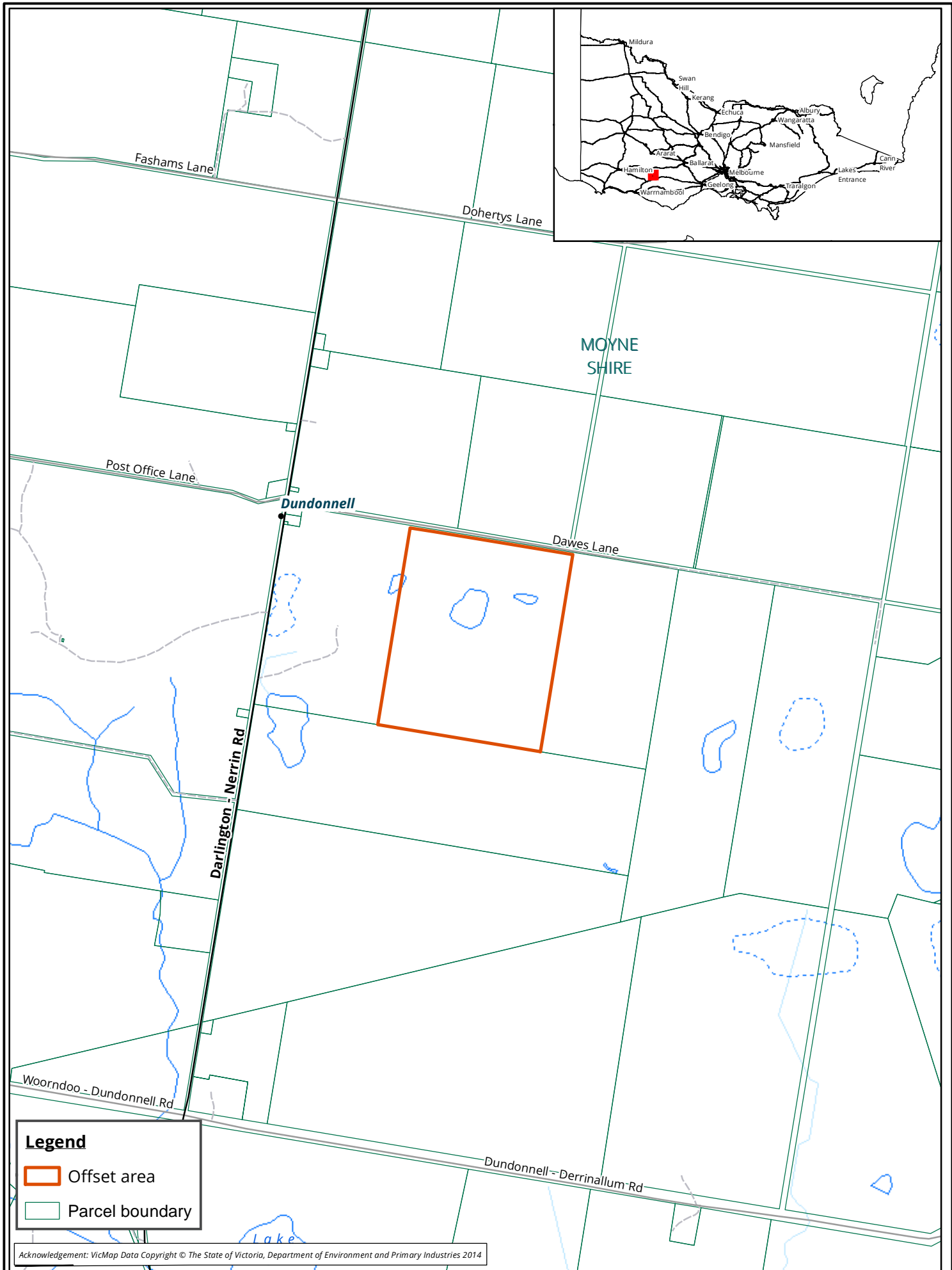


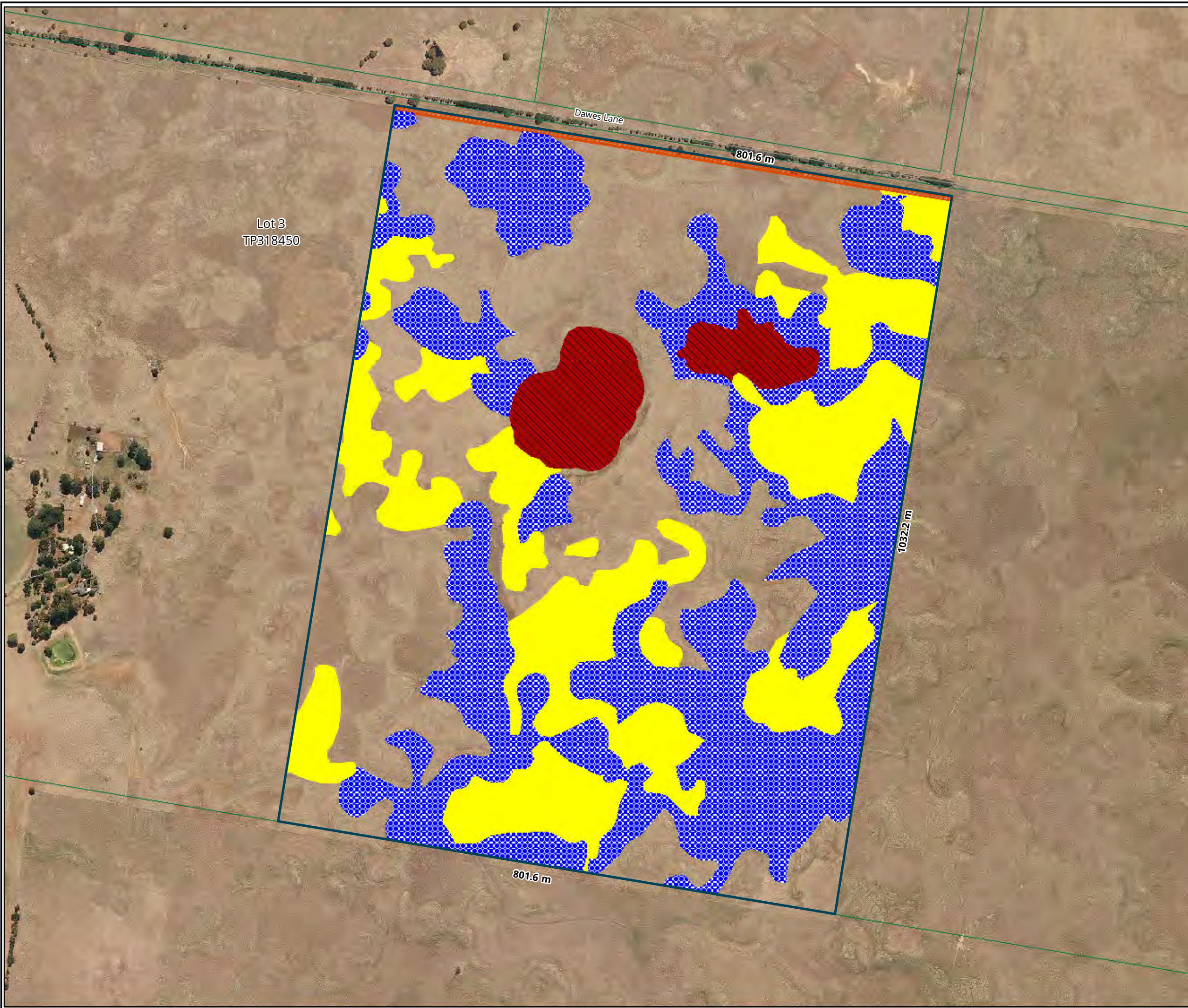
Metres  
 Scale: 1:6,000 @ A3  
 Coordinate System: GDA 1994 MGA Zone 55



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

Matter: 19710,  
 Date: 15 April 2015,  
 Checked by: SGM, Drawn by: SKM, Last edited by: smitchell  
 Location: P:\19700s\19710\Mapping\19710\_F2\_Biodiversity\_values





Lot 3  
TP318450







Dawes Lane

801.6 m

1032.2 m

801.6 m

**Legend**

-  Parcel\_boundary
- Ecological Vegetation Class
-  125 Plains Grassy Wetland
-  132 Plains Grassland
-  647 Plains Sedgy Wetland
-  6m fence buffer
-  Offset area

**Figure 4: Location of the offset site within Tiverton (Lot 3 of TP318450H within the Parish of Terrinallum).**

0 50 100 150 200 250

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



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Matter: 19710,  
Date: 15 April 2015,  
Checked by: SGM, Drawn by: SKM, Last edited by: smitchell  
Location: P:\19700s\19710\Mapping\19710\_F4\_Offsets