



Melbourne Airport Business Park,
Site 2 (Airport Drive) Tullamarine
EPBC Act Offset Management Plan for part of
Lot 3 within Tiverton,
1316 Darlington - Nerrin Road, Dundonnell

Final Plan V2

Prepared for Australia Pacific Airports Melbourne

9 December 2020

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- Kirsty Kay (field assessment)
- James Shepherd (mapping)
- Sally Mitchel and Steve Mueck (quality assurance).

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Offset Management Plan

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Part 13 Permit Number Ref E2016/011.0351

Proponent: Australia Pacific Airports Melbourne

Address: Locked Bag 16, Tullamarine, Vic, 3043

Land owner and Permit Holder Statement

Permit Holder

Print Name:

Signature:

Date: / /2020

Land owner of Offset Site(s)

Print Name: Tiverton Property Partnering Pty Ltd

Signature:

Date: / /2020

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 Commonwealth Department of Agriculture, Water and the Environment (DAWE).

Print Name:

Position:

Department of Agriculture, Water and the Environment

Date: / /2020

Responsible Authority Approval

This Offset Plan has been approved by Moyne Shire Council as part of an agreement under Section 173 of the Victorian *Planning and Environment Act 1987*.

Print Name:

Position:

Department of Agriculture, Water and the Environment

Date: / /2020

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: / /2020

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Summary

Biosis Pty Ltd was commissioned by Australia Pacific Airports Melbourne (APAM) 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 offset site (19.6 hectares) is 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 total offset site covered by this OMP is 19.6 hectares in size and includes **11.035 hectares** of Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP). The offset site meets the quantity and quality requirements for an offset as prescribed by the former Federal Department of the Environment and Energy (DoEE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Part 13 Permit Reference number: E2016/0111). Specifically this plan addresses approval under the EPBC Act for Site 2 (Airport Drive) of the Melbourne Airport Business Park, Tullamarine, Victoria.

This OMP requires that a number of existing land use rights are relinquished and that the primary objectives of management are to conserve and improve the defined areas of NTGVVP. The management outlined in this plan is specific to key management issues identified relevant to NTGVVP.

The offset site will be protected in perpetuity by an agreement under Section 173 of the *Planning and Environment Act 1988* with the Moyne Shire Council (MSC). The offset site is contiguous with another offset site for a separate project to the east managed by the same land owner.

This OMP details the management actions to achieve the habitat improvement gains required over the initial ten year management period. The responsibility of vegetation management works lies with the offset land owner with oversight by a qualified ecologist and/ or MSC.

The land owner will report annually over the initial 10 year management period to APAM and MSC regarding the progress of management works and will liaise with a qualified ecologist 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 site to be provided to APAM and MSC at the end of management years 1, 3, 5 and 10.

The primary function of the offset site is to provide an offset under the EPBC Act Environmental Offsets Policy for impacts to NTGVVP, and therefore the monitoring reports will be submitted to APAM and MSC.

MSC and /or a qualified ecologist 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 will be agreed between the land owner and

APAM. Resourcing of this management plan will be monitored by MSC 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 approval conditions and could be subject to prosecution.

Summary of management issues and associated actions

Management Issues	Actions
Ongoing offset security	<ul style="list-style-type: none"> • Agreement under Section 173 of the <i>Planning and Environment Act 1988</i> with the Moyne Shire Council over 19.6 ha.
Survey and monitoring	<ul style="list-style-type: none"> • Ecological monitoring of vegetation condition by a qualified ecologist (Section 3.6). • Supervision and monitoring of site management by a qualified ecologist (Section 3.6). • Monitoring and reporting on the condition of NTGWVP at the end of years 1, 3, 5 and 10 (Section 3.6).
Grazing	<ul style="list-style-type: none"> • Controlled pulse grazing is the main method for reducing weed cover with spot spraying and hand pulling to be utilised to supplement pulse grazing (Section 3.5.2). • Maintaining inter-tussock spaces through prescribed biomass control works predominantly through the use of pulse grazing (Section 3.5.4). • 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 31st and January 31st (Section 3.5.4) except as otherwise permitted for ecological reasons. • 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 legal agreement (Section 3.5.4)
Fire	<ul style="list-style-type: none"> • 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).
Soil disturbance	<ul style="list-style-type: none"> • Control pest animals such as rabbits, hares, cats and foxes to a standard exceeding existing legal requirements (Section 3.5.3). • Restrict site access by maintenance of fencing and gates (Section 3.5.1).

Management Issues	Actions
Exotic plant invasion/ herbicide application	<ul style="list-style-type: none"> • Undertake weed control works to lower the total cover of weeds from the current level (30% cover) to less than 20% comprising < 1% cover for perennial grassy weeds and < 2% cover for broadleaf weeds over a ten year period (Section 3.5.2). • Skilled personnel with experience in grassland vegetation to use herbicide for weed control where required. Exclude herbicide application outside of these works. • Target the control of existing high threat weeds as well as any future high threat weeds which may colonise the site (Table 5).
Fertiliser addition	<ul style="list-style-type: none"> • Prevent application of any fertiliser and prevent exotic pasture improvement activities (Section 3.3 and 3.4).

Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Australia Pacific Airports Melbourne (APAM) to prepare an Offset Management Plan (OMP) for 19.6 hectares of land to be protected and managed as an external offset for the development of the Melbourne Airport Business Park Warehouse at Site 2 (Airport Drive), Tullamarine, Victoria (Figure 1).

An ecological assessment of the Melbourne Airport Business Park Warehouse, Site 2 has been previously documented by Biosis (2014) and Brett Lane and Associates (BLA 2011) and identified 4.6 hectares of native vegetation which corresponds with the threatened ecological community, Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) (Figure 2). NTGVVP is listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Use of the EPBC Act Environmental Offsets Policy (DSEWPaC 2012a) (The Policy), the Offsets Assessment Guide (The Guide) (DSEWPaC, 2012b), the 'How to Use the Offsets Assessment Guide' (Commonwealth of Australia undated) and consultation with the former Federal Department of the Environment (DoE) (now the Department of Agriculture, Water and the Environment (DAWE)) has identified that 11.035 hectares of NTGVVP would need to be protected to offset the loss of NTGVVP from Melbourne Airport Business Park Warehouse, Site 2 .

The development has been assessed and approved through submission of a Major Development Plan (MDP) under the *Airports Act 1996*. The Commonwealth Minister for Infrastructure and Regional Development is required to seek the advice of the Environment Minister prior to approving a draft MDP. The draft MDP was referred to the Environment Minister and subsequently a Part 13 Permit (Reference number E2016/ 0111) under the EPBC Act was granted for the removal of 4.6 hectares of NTGVVP from Commonwealth Land at the Melbourne Airport Business Park Warehouse, Site 2. Condition 2 of the Part 13 Permit requires:

"Prior to the commencement of the action, enter into an agreement with the land owner to secure the offset containing at least 11.035 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain".

The external EPBC Act offset is proposed to be sourced from a 19.6 hectare section of 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 several remnant, largely contiguous patches of native vegetation.

The total offset site (19.6 hectares) contains 11.035 hectares of NTGVVP and will be protected in perpetuity by an agreement under Section 173 of the *Planning and Environment Act 1988* with Moynes Shire Council (MSC). The offset site is contiguous with another offset site to the east, an area of 82.8 hectares, which will be managed by the same land owner.

Management of the offset site will involve protection and active ecological management of the 11.035 hectares of high quality remnants of the Ecological Vegetation Classes (EVC) Plains Grassland (EVC 132) and Plains Grassy Wetland (EVC 132), which correspond to the EPBC Act listed community NTGVVP, within the 19.6 hectares offset site (Figure 4).

The Melbourne Airport Business Park Warehouse, Site 2 and the offset site are both located within the Victorian Volcanic Plain (VVP) Bioregion.

1.2 Objectives

The objectives of this plan are to:

- Identify 11.035 hectares within Tiverton (Lot 3 of TP318450H at 1316 Darlington - Nerrin Road, Dundonnell) that is nominated as an EPBC Act offset site, and:
 - Provide an offset management plan to the satisfaction of DAWE;
 - 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.

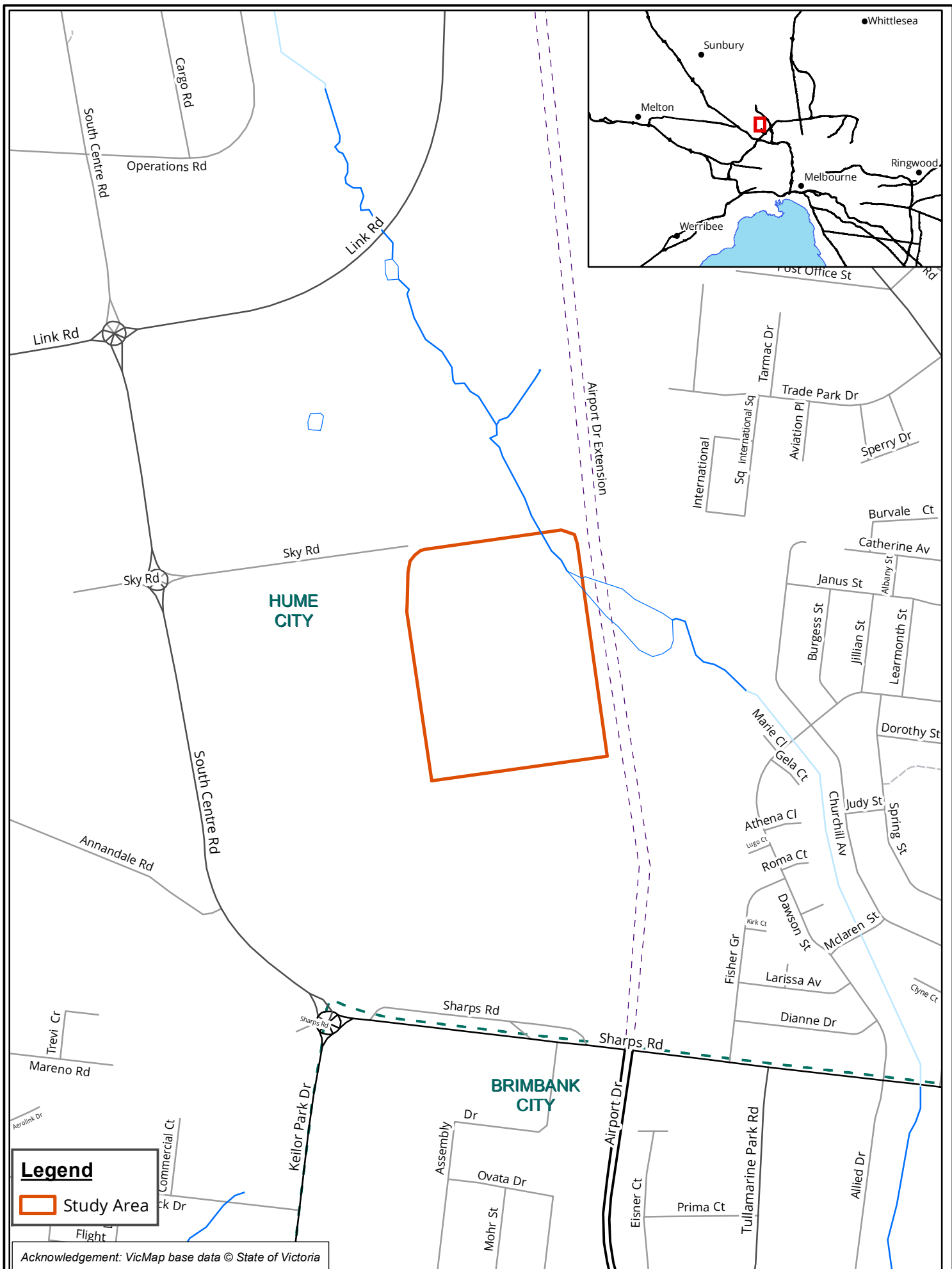
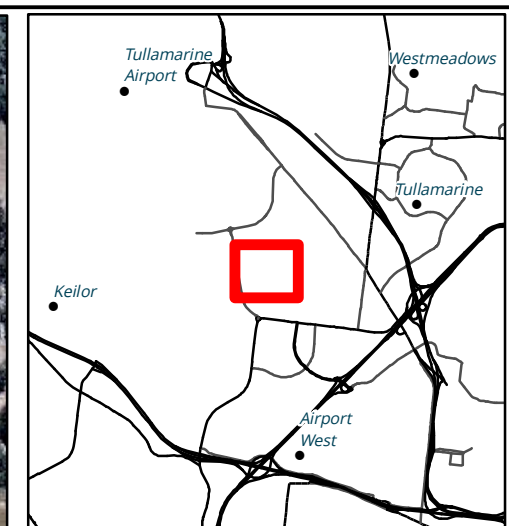


Figure 1: Location of Site 2, Airport Drive, Tullamarine, Victoria



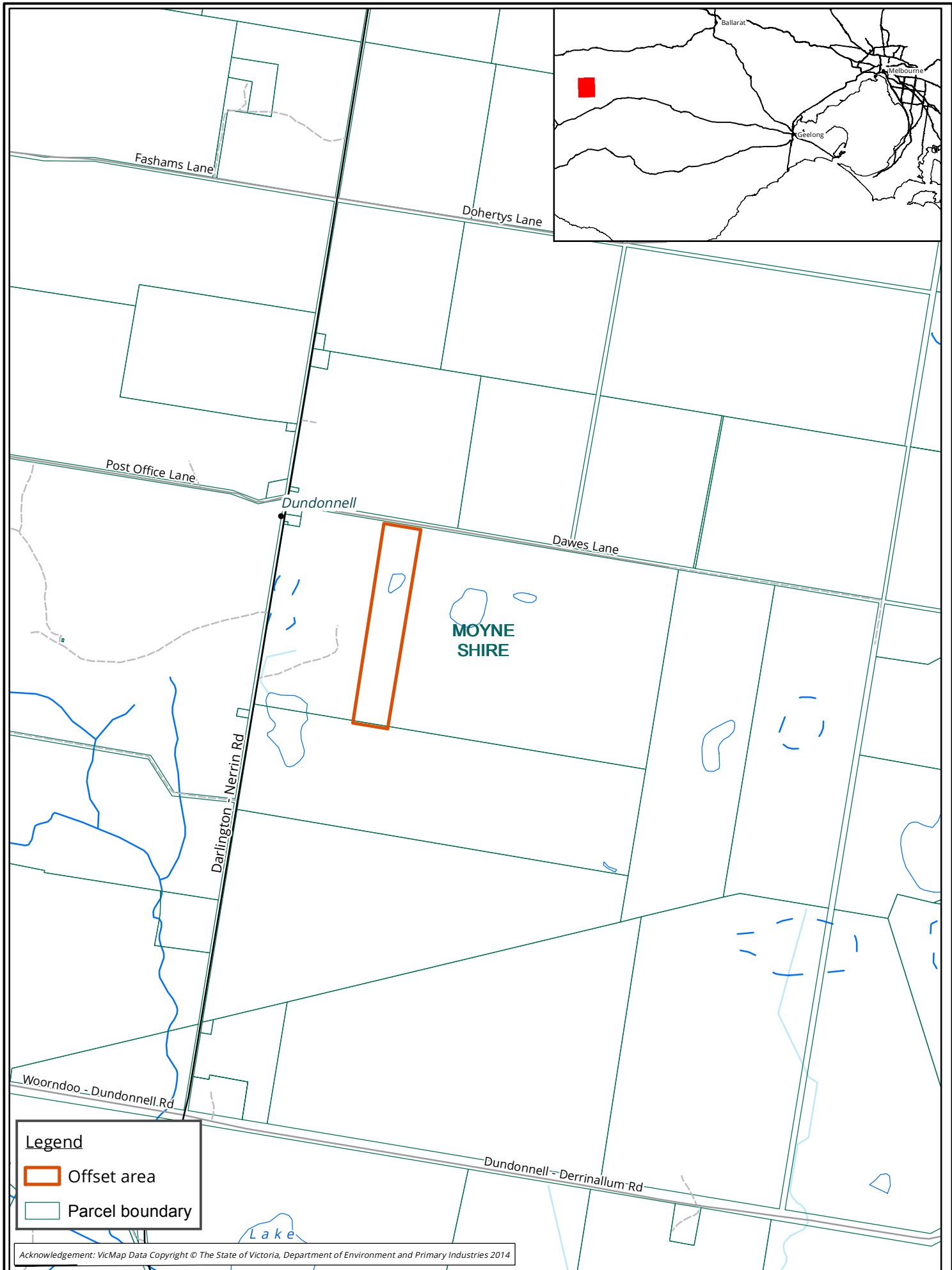
Legend

- Study area (Site 2)
- EPBC Act listed communities (BL&A 2011)
- Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)

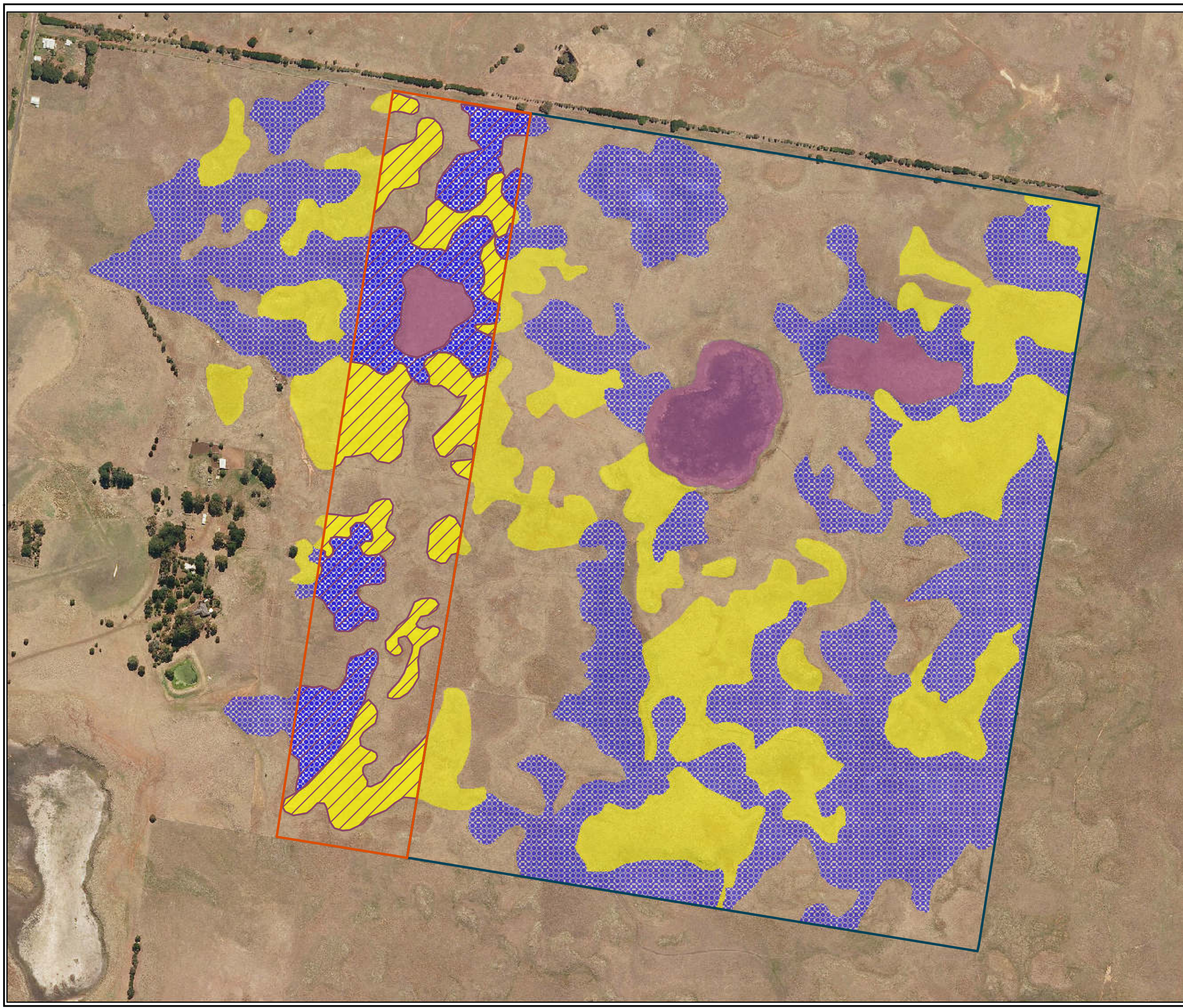
Figure 2: The extent of NTGVVP within Site 2

0 30 60 90 120 150
Metres
Scale: 1:3,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

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- Legend**
- Proposed offset area (19.58ha)
 - Extent of NTGVVP within the proposed offset area (11.035ha)
 - Existing Offset area
- Ecological Vegetation Class
- 125 Plains Grassy Wetland
 - 132 Plains Grassland
 - 647 Plains Sedgy Wetland

Figure 4: The extent of NTGVVP within the proposed offset site, Tiverton, Dundonnell, Victoria

0 50 100 150 200
 Metres
 Scale: 1:4,830 @ A3
 Coordinate System: GDA 1994 MGA Zone 54



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Matter: 20752,
 Date: 25 August 2015,
 Checked by: KJK, Drawn by: LDM, Last edited by: jshepherd
 Location: P:\20700s\20752\Mapping\20752_F4_NTGVVP_Offsets

2. Part A: Offset suitability

2.1 Clearing site details

Land owner of clearing site	Australia Pacific Airports Melbourne (APAM)
Location and address of clearing site	Melbourne Airport Business Park, Site 2 (Airport Drive) Tullamarine
Land Tenure	Commonwealth land
Catchment Management Authority	Port Phillip and Western Port
Responsible Authority	Federal Department of Agriculture, Water and the Environment (DAWE)
Permit/approval applicant	Australia Pacific Airports Melbourne
Date Approved	30/11/2016 (Part 13 Permit Reference Number E2016/0111)

2.2 Vegetation approved for removal

Vegetation removal is approved under the MDP assessment and approvals procedure. Vegetation proposed for removal is described in the biodiversity assessment prepared by Biosis (2014) and provided below in Table 1. A total of 4.6 hectares of native vegetation which corresponds with the threatened ecological community NTGVVP will be cleared to enable construction of the Melbourne Airport Business Park Warehouse, Site 2 (Airport Drive).

Table 1 Summary of proposed losses of patches of native vegetation at Site 2 (Airport Drive)

Habitat Zone			A	B	TOTAL	
Bioregion			Victorian Volcanic Plain			
Vegetation Community			NTGVVP A	NTGVVP B		
		Max Score	Score	Score		
Site Condition	Large Old Trees	10	Not Applicable	Not Applicable		
	Canopy Cover	5	Not Applicable	Not Applicable		
	Lack of Weeds	15	4	7		
	Understorey	25	5	5		
	Recruitment	10	3	0		
	Organic Matter	5	2	3		
	Logs	5	Not Applicable	Not Applicable		
	Total Site Score			14	15	
	Standardised Site Score (x75/55)			19.10	20.45	
Landscape Value	Patch Size	10	2	1		
	Neighbourhood	10	0	0		
	Distance to Core	5	2	2		
	Total Landscape Score			4	3	
HABITAT SCORE		100	23	23		
Habitat points = #/100		1	0.23	0.23		
Habitat Zone area (ha)			4.30	0.30	4.60	
Habitat Hectares (Hha)			0.99	0.07	1.06	

2.3 Offset targets

Vegetation losses and offset requirements were calculated using the EPBC Act Offsets Assessment Guide (DSEWPaC 2012b) balance sheet approach. A copy of the EPBC Act Offsets Assessment Guide developed for this OMP can be viewed in Appendix 1.

This OMP provides a 100% offset of the residual impact to NTGVVP through the protection and management of 11.035 hectares of NTGVVP. 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.

Consistency with the EPBC Act Offsets Policy is outlined in Table 2.

Table 2 Compliance with EPBC Act Offset Requirements

EPBC Act Offset Principles	Current offset Site
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	The offset proposal will ensure the protection of 11.035 ha of NTGVVP at Tiverton. The protection and ongoing improvement proposed will secure an MNES in perpetuity and removes or controls the current threatening processes which is active at both the clearing and offset locations. This management is essential to provide for the long term viability of the MNES at the offset site.
Be built around direct offsets but may include other compensatory measures	Habitat protection and management to improve vegetation condition is a direct offset.
Be in proportion to the level of statutory protection that applies to the protected matter	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). This has also been agreed in consultation with DoE.
Be of a size and scale proportionate to the residual impacts on the protected matter	The Tiverton offset site protects 11.035 ha to compensate for an impact on 4.6 ha of NTGVVP (i.e. 2.4 times the area that will be lost).
Effectively account for and manage the risks of the offset not succeeding	<p>The offset site is 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 MSC. The Tiverton offset will be managed by the land owner under supervision and audit by a qualified 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 fertiliser 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 20%. 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>
Be additional to what is already required, determined by law or planning regulations or agreed to under other	No offsets for NTGVVP are prescribed under any State or Local Government offset prescriptions.

EPBC Act Offset Principles	Current offset Site
<p>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)</p>	
<p>Be efficient, effective, timely, transparent, scientifically robust and reasonable</p>	<p>The offsets will be actively managed by the land owner under this OMP, under the supervision and input from a qualified ecologist. The overall offset package protects 19.6 ha of which 11.035 ha is NTGWV for the loss of 4.6 ha of NTGWV.</p> <p>The NTGWV proposed to be cleared occurs on Commonwealth land which is not actively managed to protect or 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 6 to a 4 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>A potential increase in quality is considered reasonable given the positive response that grasslands can exhibit to active management with an ecological focus.</p>
<p>Have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.</p>	<p>Governance includes supervision and audit by a qualified ecologist and formal reporting to MSC and APAM and DAWE upon request.</p>

2.4 Description of the Tiverton Offset Site

2.4.1 Description

The offset site (19.6 hectares) 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 site assessed is part of a broader, approximately 200 hectare 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). All of these EVCs are endangered within the VVP Bioregion. Areas of Plains Grassland and Plains Grassy Wetland also correspond with the definition

criteria of the EPBC Act listed ecological community NTGVVP. The paddock is fenced to control stock movements between the balance of Tiverton and other adjacent properties.

The proposed offset site (the area subject to this OMP) dominates the central third of this parcel (Figure 4). The offset site supports two habitat zones which will be managed to provide the external offsets prescribed for development of the Melbourne Airport Business Park Warehouse, Site 2.

Within the broader Tiverton property a total of 126 indigenous and 72 introduced plant species have been recorded (Appendix 2). Additional 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 the nominated offset site, past inspections by Biosis at Tiverton indicate that the property also supports a variety of native vegetation communities (Biosis 2012, 2015). Other information identifying the extent of native vegetation includes a report prepared by DSE (2010) as part of a site assessment for BushBroker.

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

2.4.2 NTGVVP

The NTGVVP within the offset area is made up of two Ecological Vegetation Classes (EVC):

- Plains Grassland (EVC 132) – 5.7 hectares
- Plains Grassy Wetland (EVC 125) – 5.4 hectares.

The Plains Grassland EVC is dominated by wallaby grasses *Rytidosperma* spp. and spear grasses *Austrostipa* spp.

The Plains Grassy Wetland areas are dominated by the perennial grass Common Tussock-grass *Poa labillardierei*. The distribution of the two EVCs is 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.

2.4.3 Habitat hectares

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

Both EVCs are considered to be in moderate condition (Table 3).

Table 3 Condition of native vegetation within areas containing the EPBC Act listed grassland community

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

2.4.4 Threatened species

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

- *Asperula wimmerana* Wimmera Woodruff (rare in Victoria)
- *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 Victoria and Australia).

The local distribution of known records or habitat for these species is described in Table 4.

Table 4 Extent of habitat for rare or threatened flora species within the Tiverton property

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

3. Part B: Offset implementation – 1316 Darlington – Nerrin Road

3.1 Offset site details

Land owner 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)	19.6 ha
Offset site number (if applicable)	Not Applicable
Volume	
Folio	
Parish	Terrinallum
Allotment	Lot 3
Local Government Area	Moyne Shire
Responsible Authority	Federal Department of Agriculture, Water and the Environment (DAWE)
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/ Australia Pacific Airports Melbourne
Type of security	Agreement under Section 173 of the Planning and Environment Act 1988 (19.6 ha).
Date 10-year offset management to commence	___/___/2021
Date 10-year offset management expires	___/___/2031
Date agreement registered on-title	___/___/2021
Offset site management responsibility (i.e. Land owner, Authority Name)	Tiverton Property Partnering Pty Ltd
Offset Monitoring Responsibility (i.e. Responsible Authority)	Moyne Shire Council

An offset site must be protected in perpetuity to qualify as an appropriate offset. The offset site (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

entire offset site with BushBroker then it is likely that the security mechanism would revert to a Trust for Nature covenant. The encumbrance(s) registered on title will require the land owner to manage the land in accordance with this OMP.

3.4 Ongoing land-use commitments

The entire 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 OMP.
- 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 fertiliser application.
- Control the accumulation of ground cover biomass through either the controlled grazing of sheep or the controlled application of fire.
- 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 3.6) with reports submitted to DAWE, MSC and APAM. Management actions by the land owner will be overseen by MSC as part of the legal protection over the site.

Moyne Shire Council is responsible for:

- Review of ecological monitoring reports including an assessment of targets achieved.

MSC will monitor implementation of the OMP and verify that the actions have been carried out appropriately.

Implementation of the plan will begin upon registration of the Section 173 agreement.

Funding for implementation of this OMP will be agreed between the land owner and MSC. Where appropriate or otherwise agreed, funding will be held by MSC 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. This will be achieved through active ecological management (maintenance and improvement) and permanent protection of the offset site. Table 7 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 hectare parcel, and limiting access to the existing access gates unless otherwise authorised by MSC as appropriate.
- Weed control through active management:
 - Eliminating all woody environmental weeds
 - Controlling high threat weeds to levels specified in Table 5
 - 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, except as otherwise permitted for ecological reasons.
- Undertaking ecological burning, if and when appropriate, to reduce biomass and promote native species diversity (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.
- Managing native species understorey diversity and recruitment.

3.5.1 Fencing information and access control

Permanent fencing able to exclude domestic stock exists around the boundary of the broader 200 hectare property. Additional fencing around the 19.6 hectare offset site (Figure 4) is not required but may be constructed for better grazing management if needed. If additional fencing is deemed necessary by the land owner / manager, fencing plans are to be prepared and approved by Moyne Shire Council.

Additional fencing within the 19.6 hectare offset site must not remove or fragment any of the existing 11.035 hectares of NTGVVP shown in Figure 4. Additional stock water access points are to be located away from areas of NTGVVP. Access gates are not to open up into areas of NTGVVP as displayed in Figure 4.

Additional permanent fencing is not recommended unless required for better grazing management 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.

Sheep will be allowed to graze the offset area as part of the broader existing paddock structure, with limitations described in the following paragraphs.

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 adverse 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 hectare 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 hectare 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.
- Prepare fencing plans and gain approval from Moyne Shore Council for any additional fencing which may be required within the offset site for better landscape grazing management.

3.5.2 Weed control

The OMP requires a quality improvement for NTGWP. 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 are not considered a significant threat in this environment, will be managed using pulse 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 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 5, 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 Table 5, Table 6 and Table 7.

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 5 High threat weeds for priority control

Scientific Name	Common Name	% cover for the current assessment	Control Proposed	Desired Outcome [^]
<i>Agrostis capillaris</i>	Brown-top Bent	<1%	Burn standing dead material. New growth controlled pulse 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%	Controlled pulse grazing by sheep to prevent seed set. 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

[^] Desired outcome after 10 years of ecological management

Woody weeds are known from the offset area and the broader 200 hectare 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.

Controlled pulse grazing is the main method for reducing weed cover with spot spraying and hand pulling to be utilised to supplement pulse grazing. Pulse grazing will occur prior to seed set on target weeds. 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. 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 maybe 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

- Controlled pulse grazing will be the main method for reducing weed cover with spot spraying and hand pulling to be utilised to supplement pulse grazing.
- 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 5; 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 MSC.
- Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled in consultation with MSC.
- 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 within the offset site is a requirement of this OMP. While no active rabbit warrens were noted in the offset area, grazing by European Rabbits *Oryctolagus cuniculus* and European Hares *Lepus europeaus* is evident and is likely to have a significant impact within the offset area.

Currently rabbits and hares are controlled by fumigation, baiting and shooting on the property.

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 meters 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 land owner. The land owner will therefore control all shrubby environmental weeds on their land within 500 meters 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 land owner 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 land owner or a professional shooter employed by the land owner;
- 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 land owner in consultation with MSC. 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.

Duration and intensity of the grazing will be controlled by the land owner and will be adapted to meet season conditions on an annual basis but also throughout the grazing period. Duration refers to both the length of grazing and the length of rest. Intensity refers to the stocking rate within individual grazing cells. Grazing should be adapted to meet seasonal conditions, to learn from the experience of previous years or in response to further research or information on grazing in NTGWV. The land owner is required to keep records of stocking rate and duration to ensure that the results of grazing can be adapted over time.

The timing of grazing will be controlled to allow native species to grow and set seed over the spring to mid-summer period (DSE 2009). Stock will be excluded from 31st August to 31st January, except as otherwise permitted for ecological reasons. Ecological reasons that would result in pulse grazing between the exclusion period of 31st August to 31st January include but are not limited to environmental conditions that result in higher than average levels of biomass or weed growth from 31st August to 31st January which exceed the percentage covers allowable in this plan and pose a risk to the successful achievement of targets outlined in this plan.

Actions:

- An on-going grazing strategy will be prepared during year one and reviewed annually by the landowner/ land manager and a qualified ecologist, allowing for adaptive management. The grazing strategy will be provided to MSC during year one and will allow the targets and requirements outlined in this OMP to be met. If possible, the grazing strategy should be developed in consultation with MSC. It is acknowledged, however, that strategic grazing needs to be timed precisely so that MSC resourcing constraints may mean that a response is not received before the time when the grazing needs to occur. This should not preclude the land owner from undertaking adaptive management if all other dot points noted above are complied with.
- A risk assessment for each grazing event is prepared (based on the current seasonal conditions) to compare the benefits of the proposed grazing with the risks of not grazing, and the risks associated with undertaking the grazing. The risk assessment is to be prepared by a qualified ecologist and demonstrate that the proposed grazing will not negatively impact NTGWV quality at the conclusion of the ten year management period. If the risk assessment determines that the proposed pulse grazing may prevent the achievement of targets outlined in this plan then the grazing event is not to proceed. The risk assessment will be included within the relevant monitoring report at years 1, 3, 5 or 10.
- Prior to introducing the sheep, the land owner is to document with photos and notes in writing as to the specific reason why the pulse grazing is to be implemented. This should include information to show that a risk assessment at point 1 above has been done and will be included within the relevant monitoring report at years 1, 3, 5 or 10.
- The pulse graze is to be done for conservation purposes only. Reasonable reasons for grazing, particularly within the noted exclusion period, include unusual seasonal conditions resulting in unusual amounts of plant growth and specific weed management objectives.
- Under no circumstances can the pulse graze be done for the primary purpose of benefiting agricultural production (e.g. commercial considerations or feed requirements).
- At no time should a change in grazing be undertaken where it poses a threat to the grassland (e.g. very wet conditions that could cause pugging/ ground damage).
- The offset site 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 to prevent pugging and damage to the ground by hooves.
- New sheep to the broader Tiverton property will be held in a quarantine holding yard outside of the offset site for a minimum of one week upon first entering the property. This quarantine period will allow seed matter to be deposited from digestive tracts and allow seeds to fall out of fleece if present.

- A risk assessment will be undertaken by the landholder or land manager for all new sheep transported to the broader Tiverton property for their potential to introduce weed seed into the offset site. A sample of 10% of the sheep stock will be visually assessed for seeds at the conclusion of the quarantine holding period. Should the risk assessment determine that the risk of weed seed transfer from fleece has a medium to high likelihood of occurring then the sheep must be shorn prior to being used in pulse grazing on the offset site. Notes, photos and the risk assessment undertaken for new sheep entering the broader Tiverton property will be recorded in the relevant monitoring report at years 1, 3, 5 or 10.
- 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) or via their fleece.

Table 6 provides targets to be met for ongoing management of grazing within the offset site. The land owner will keep records of the number of sheep and duration of grazing within the offset site. This data will be provided to the MSC 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 MSC.

Grazing will occur over a short duration and exceed the standard stocking rate to prevent selective grazing and allow for periods of grazing exclusion. 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 6) 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.

Table 6 Requirements and limit of grazing activities within the offset area

Requirement	Target
Grazing exclusion period (sheep grazing generally not permitted*)	31st August to 31st January annually* (5 months) in perpetuity.
Rotational grazing period (sheep grazing generally permitted in accordance with this OMP)	1 February to 30th August (7 months)
Number of rotations	3 or more (dependant on conditions)
Minimum rest from grazing between pulse grazing	6 weeks
Maximum continuous pulse grazing	4 weeks (2 weeks or less preferred)
Biomass management thresholds	Total vegetation cover of approx. 70% (maintain within range of 60 to 80%)
Target inter-tussock space	Approx. 30% of total bare ground cover (maintain within range of 20 to 40%)

* As per adaptive management, strategic grazing may be allowed during this period for specific conservation related purposes.

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 (CFA) and in line with a fire management plan completed by a suitably qualified consultant. Any approved fire plan will also be provided to DAWE 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 if and when practical. 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 hectares but any one burn will cover a maximum of 5 hectares and be separated from other burnt areas by at least 20 meters of unburnt grassland).

If controlled fire is undertaken the land owner 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 7 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 MSC 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 5.

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.

Table 7 Management plan actions and timing for offsets on the Tiverton 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.	19.6	ha	Land owner	Agreement under Section 173 of the <i>Planning and Environment Act 1988</i> with the Shire of Moyne covering 11.035 ha.
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 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 monitoring report including photos and confirm agreed performance measures outlined in Section 3.5.
1	1.1	0.1-0.5	Land owner to develop annual works plan	Upon registration	-	-	Land owner and	Annual works plan prepared and

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
			in consultation with the qualified ecologist based on a site inspection.	of the covenant.			qualified ecologist	approved for implementation by qualified ecologist.
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 six 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 st January – 31 st July* * As per adaptive management, strategic grazing may be allowed outside this period for specific conservation related purposes.	19.6	ha	Land owner	Maintain an open tussock grassland with at least 30% cover of inter-tussock space.
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).	Continuous inspection and management during appropriate conditions	-	-	Land owner or 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

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
								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	19.6	ha	Land owner or 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 if and when appropriate, to reduce biomass and promote native species diversity 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	Sep-Oct (or as specified in the burn plan)	10	ha	Qualified contractor in consultation with CFA and MSC	Medium intensity burn over 40–50% of the 19.6 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

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
			and 10). Conduct burns in different seasons to promote regeneration of a variety of species.					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/ or ecological consultant	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 DAWE, MSC, and APAM.
1	1.9	1.7	Prepare annual report based on site inspections conducted throughout the year. Report to be provided to MSC and APAM.	Nov	1	Report	Land owner	Report reviewing the success of management and level of implementation of OMP provided to DAWE, MSC and APAM.

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	1.10	1.8-1.9	Review and update Annual Works Plan in consultation with qualified ecologist.	Dec	1	Report	Land owner in consultation with qualified ecologist.	Following year's management tailored to current site conditions.
Recurrent Activities								
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	31 st January – 31 st	19.6	ha	Land owner	Maintain an open tussock grassland

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
			<p>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).</p> <p>The maximum grazing length at any one time is four weeks with a minimum six 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%.</p>	<p>July*</p> <p>* As per adaptive management, strategic grazing may be allowed outside this period for specific conservation related purposes.</p>				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).	Continuous inspection and management during appropriate conditions	-	-	Land owner or ecological restoration contractor	<p>No ground disturbance by pest animals within offset site.</p> <p>No active rabbit warrens present within offset site, minimal surface harbour for rabbits and hares present (but excluding natural harbour such as rocks).</p>
2-10	X.4	1.5	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).	July–Nov or as required and detailed in the annual works plan	19.6	ha	Land owner or 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

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
			Control total cover of weeds, in particular perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.					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.
2-10	X.5	1.9	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.	Site inspections at an appropriate frequency	-	-	Land owner, Ecological Consultant and /or 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.
2-10	X.6	2.5	Prepare annual report based on site inspections conducted throughout the year. Report to be provided to MSC and APAM .	Nov	1	Report	Land owner	Report reviewing the success of management and level of implementation of OMP provided to DAWE, MSC and APAM.
2-9	X.7	2.6	Review and update Annual Works Plan in consultation with MSC.	Dec	1	Report	Qualified ecologist land owner	Following years management tailored to current site conditions
Year Specific Activities								
3, 5 & 10	X.8	1.8	Qualified ecologist to undertake monitoring, and refine management	Oct-Nov monitoring	1	Report	Qualified ecologist to be engaged by	Prepare standard report including results from photos and agreed

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
			actions based on results. Report to regulator as required.	Dec Reporting			the Land owner	performance measures outlined in Section 3.5. Monitoring report provided to DAWE, MSC and APAM.
4, 7 & 10	4.8, 7.8 & 10.9	1.6	Develop burn plan and undertake ecological burn of the offset site if and when appropriate, to reduce biomass and promote native species diversity. 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)	10	ha	Qualified contractor in consultation with CFA and MSC	Medium intensity burn over 40-50% of the 19.6 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 3.5.4. 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 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.
10	10.11.035	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 offset site in perpetuity.
Beyond Year 10								
Be	10.11.035		Maintain fences and gates around broader	Continuous	-	-	Land owner	Potential threats (i.e. rabbits, domestic

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
			offset area in good working order.	(inspection and management)				stock, unauthorised entry) excluded.
Beyond year 10			Evaluate ground cover biomass and manage using pulse grazing and ecological burning	As required	19.6	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.	Continuous inspection and management during appropriate conditions	-	-	Land owner	Absence of evidence of grazing/browsing by pest animals.
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	July - Nov	19.6	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 <

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
			perennial grassy weeds and broadleaf weeds. Monitor for new and emerging weeds and eliminate any found.					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).

3.6 Monitoring and reporting

The offset site requires 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 DAWE, MSC and APAM. A template for this reporting is provided in Appendix 3 which includes a requirement to assess the implementation of actions defined by Table 7. The collection of baseline data (Table 7 Action 0.5) at the start of the offset management period will also be used to document the progress of the implementation of this OMP. 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 MSC to ensure the grasslands response to management actions produce the desired outcome outlined by this plan. MSC 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 MSC and APAM as required on an annual basis.

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 DAWE, MSC and DELWP as required and will include a review of past works and future planning.
- A minimum of 10 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 meter 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 MSC 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 qualified ecologist 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).

3.7 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 10 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 and APAM, 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 DAWE, MSC and APAM on an annual basis.

Prior to works being undertaken each year the annual works program (based on Table 7) will be reviewed. The person undertaking the works will prepare a detailed works program in consultation with a qualified ecologist. The works program for the coming year will also address issues that may not have been anticipated in formulating this original management plan.

This OMP 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.

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Appendices

Appendix 1 EPBC Act offset calculator output

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	NTGVVP
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	Airport Drive Site 2 - NTGVVP	Area	4.6	Hectares	Biodiversity Assessment Report (Biosis 2015)
			Quality	2	Scale 0-10	
			Total quantum of impact	0.92	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	0.92	Adjusted hectares	11	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	11	Risk of loss (%) without offset	20%	Risk of loss (%) with offset	5%	1.65	80%	1.32	0.35	0.94	102.36%	Yes	\$412,500.00	Management Plan not yet prepared. Costs based on estimates with further details provided in attached report.
						Future area without offset (adjusted hectares)	8.8	Future area with offset (adjusted hectares)	10.5	2.00	80%	1.60	0.83								
						Time until ecological benefit	10	Start quality (scale of 0-10)	6	Future quality without offset (scale of 0-10)	4	Future quality with offset (scale of 0-10)	6								
<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>																					
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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 e.g. Change in nest success	0				\$0.00		\$0.00
Mortality rate e.g. Change in number of road kills per year	0				\$0.00		\$0.00
Number of individuals e.g. Individual plants/animals	0				\$0.00		\$0.00
Number of features e.g. Nest hollows, habitat trees	0				\$0.00		\$0.00
Condition of habitat Change in habitat condition, but no change in extent	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	0.92	0.94	102.36%	Yes	\$412,500.00	N/A	\$412,500.00
					\$412,500.00	\$0.00	\$412,500.00

Appendix 2 Plant species at Tiverton offset site

A2.1 Plant species recorded within Lot 3 of TP318450K, Terrinallum

Notes to tables:

<p>EPBC Act: CR - Critically Endangered EN - Endangered VU - Vulnerable</p> <p>PMST – Protected Matters Search Tool</p>	<p>DEPI 2014: e - endangered v - vulnerable r - rare k - poorly known</p>
<p>FFG Act: L - listed as threatened under FFG Act P - protected under the FFG Act (public land only)</p>	<p>Noxious weed status: SP - State prohibited species RP - Regionally prohibited species RC - Regionally controlled species R - Restricted species # - Native species outside natural range</p>

Status	Total % cover (weeds)	Scientific Name	Common Name
Rare or Threatened Native Species			
r, P		<i>Asperula wimmerana</i>	Wimmera Woodruff
v, P		<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, P		<i>Microseris scapigera</i>	Plains Yam-daisy
Vu, v, L, P		<i>Poa sallacustris</i>	Salt-lake Tussock-grass
Native Species			
		<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

Status	Total % cover (weeds)	Scientific Name	Common Name
		<i>Arthropodium milleflorum</i>	Pale Vanilla-lily
		<i>Arthropodium minus</i>	Small Vanilla-lily
		<i>Arthropodium strictum</i>	Chocolate Lily
P		<i>Asperula conferta</i>	Common Woodruff
P		<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
P		<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
k		<i>Convolvulus angustissimus</i> subsp. <i>omnigracilis</i>	Slender Bindweed
P		<i>Cotula australis</i>	Common Cotula
P		<i>Cotula vulgaris</i> var. <i>australasica</i>	Slender Cotula
P		<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

Status	Total % cover (weeds)	Scientific Name	Common Name
		<i>Distichlis distichophylla</i>	Australian Salt-grass
		<i>Drosera hookeri</i>	Branched Sundew
		<i>Einadia nutans</i>	Nodding Saltbush
		<i>Eleocharis acuta</i>	Common Spike-sedge
		<i>Eleocharis pusilla</i>	Small Spike-sedge
		<i>Epilobium billardierianum</i>	Variable Willow-herb
		<i>Epilobium hirtigerum</i>	Hairy Willow-herb
		<i>Eragrostis brownii</i>	Common Love-grass
		<i>Eragrostis infecunda</i>	Southern Cane-grass
		<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

Status	Total % cover (weeds)	Scientific Name	Common Name
		<i>Juncus subsecundus</i>	Finger Rush
		<i>Kennedia prostrata</i>	Running Postman
		<i>Lachnagrostis aemula</i>	Leafy Blown-grass
		<i>Lachnagrostis filiformis</i>	Common Blown-grass
		<i>Lepilaena cylindrocarpa</i>	Long-fruit Water-mat
P		<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
P		<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

Status	Total % cover (weeds)	Scientific Name	Common Name
		Ranunculus pumilio	Ferny Small-flower Buttercup
		Rumex brownii	Slender Dock
		Rumex dumosus	Wiry Dock
		Ruppia megacarpa	Large-fruit Tassel
		Rytidosperma caespitosum	Common Wallaby-grass
		Rytidosperma duttonianum	Brown-back Wallaby-grass
		Rytidosperma erianthum	Hill Wallaby-grass
		Rytidosperma fulvum	Copper-awned Wallaby-grass
		Rytidosperma geniculatum	Kneed Wallaby-grass
		Rytidosperma laeve	Smooth Wallaby-grass
		Rytidosperma setaceum	Bristly Wallaby-grass
		Schoenus apogon	Common Bog-sedge
		Schoenus nitens	Shiny Bog-sedge
		Sebaea albidiflora	White Sebaea
		Sebaea ovata	Yellow Sebaea
P		Senecio pinnatifolius var. lanceolatus	Lance-leaf Groundsel
		Spergularia marina	Lesser Sea-spurrey
		Stellaria angustifolia	Swamp Starwort
		Stuckenia pectinata	Fennel Pondweed
		Themeda triandra	Kangaroo Grass
		Tortula antarctica	Bristly Screw-moss
		Triglochin procera	Common Water-ribbons
		Triglochin striata	Streaked Arrowgrass
		Triquetrella papillata	Common Twine-moss
		Wahlenbergia communis	Tufted Bluebell
		Wahlenbergia gracilis	Sprawling Bluebell
		Wahlenbergia luteola	Bronze Bluebell
		Wahlenbergia multicaulis	Branching Bluebell

Status	Total % cover (weeds)	Scientific Name	Common Name
		Wahlenbergia spp.	Bluebell
		Walwhalleya proluta	Rigid Panic
		Wilsonia rotundifolia	Round-leaf Wilsonia
Weed Species			
	<1	Acetosella vulgaris	Sheep Sorrel
	<1	Agrostis capillaris	Browntop Bent
	<1	Aira cupaniana	Quicksilver Grass
	<1	Aira elegantissima	Delicate Hair-grass
	2	Alopecurus pratensis	Meadow Fox-tail
	<1	Arctotheca calendula	Cape Weed
	2	Avena barbata	Bearded Oat
	2	Briza maxima	Large Quaking-grass
	<1	Briza minor	Lesser Quaking-grass
	<1	Bromus diandrus	Great Brome
	10	Bromus hordeaceus subsp. hordeaceus	Soft Brome
	<1	Carduus pycnocephalus	Slender Thistle
	<1	Cerastium glomeratum	Sticky Mouse-ear Chickweed
	<1	Cicendia quadrangularis	Square Cicendia
RC	<1	Cirsium vulgare	Spear Thistle
	<1	Conyza bonariensis	Flaxleaf Fleabane
	<1	Cotula bipinnata	Ferny Cotula
	<1	Cotula coronopifolia	Water Buttons
	<1	Crassula natans var. minus	Water Crassula
	1	Cynosurus echinatus	Rough Dog's-tail
	<1	Erodium botrys	Big Heron's-bill
	<1	Galium murale	Small Goosegrass
	1	Helminthotheca echioides	Ox-tongue
	<1	Holcus lanatus	Yorkshire Fog

Status	Total % cover (weeds)	Scientific Name	Common Name
	2	<i>Hordeum hystrix</i>	Mediterranean Barley-grass
	1	<i>Hypochaeris radicata</i>	Flatweed
	<1	<i>Isolepis levynsiana</i>	Tiny Flat-sedge
	<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
RC	<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 nanteuillii</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

Status	Total % cover (weeds)	Scientific Name	Common Name
	<1	Ranunculus trilobus	Large Annual Buttercup
	<1	Romulea rosea	Onion Grass
	<1	Rumex conglomeratus	Clustered Dock
	1	Rumex crispus	Curled Dock
	<1	Sagina procumbens	Spreading Pearlwort
	<1	Salvia verbenaca	Wild Sage
	<1	Sherardia arvensis	Field Madder
RC	<1	Silybum marianum	Variigated Thistle
	<1	Sonchus asper	Rough Sow-thistle
	1	Sonchus oleraceus	Common Sow-thistle
	<1	Taraxacum officinale spp. agg.	Garden Dandelion
	<1	Trifolium campestre var. campestre	Hop Clover
	<1	Trifolium dubium	Suckling Clover
	<1	Trifolium fragiferum var. fragiferum	Strawberry Clover
	1	Trifolium glomeratum	Cluster Clover
	<1	Trifolium pratense	Red Clover
	1	Trifolium repens var. repens	White Clover
	<1	Trifolium striatum	Knotted Clover
	<1	Trifolium subterraneum	Subterranean Clover
	<1	Triticum aestivum	Wheat
	2	Vulpia bromoides	Squirrel-tail Fescue

Appendix 3 Monitoring and reporting form

Land owner of offset site	
Location and address of offset site	1316 Darlington - Nerrin Road, Dundonnell
Offset site number (if applicable)	
Offset plan reference number (if applicable)	
Responsible Authority	
Report #	
Signature	
Date	

Please attach a copy of Management Action Table (Table 7) from this Offset Management 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 etc.) and any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing etc.).

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.