

# **Parwan to Melton Pipeline, Victoria: EPBC 2018/8260**

## **Annual Compliance Report**

**Year 2: 22 November 2023 – 21 November 2024**



**18 February 2025**

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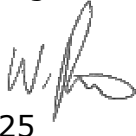
## Revision History

Revision No.	Description	Prepared By	Approved By	Date
A	Draft for internal review	Stephen Campbell	Warren Price	03/02/2025
0	Final for issue	Stephen Campbell	Warren Price	18/02/2025

## Declaration of Accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorized to bind the approval holder to this declaration and that I have no knowledge of that authorization being revoked at the time of making this declaration.

Signed:



Date: 18/02/2025

Full Name: Warren Price

Position: Team Leader, Strategic Growth Projects

Organisation: Greater Western Water (previously Western Region Water Corporation)

ABN: 70 066 902 467 (previously 67 433 835 375)

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## Introduction

This Annual Compliance Report details compliance with the following EPBC approval:

- EPBC Number: 2018/8260.
- Project Name: Parwan to Melton Pipeline.
- Approval Holder: Greater Western Water (previously Western Region Water Corporation).
- ABN: 70 066 902 467 (previously 67 433 835 375).
- Approved Action: To construct a recycled water transfer pipeline, approximately 12km in length, transection between the towns of Parwan and Melton in Victoria.
- Reporting Period: 22<sup>nd</sup> November 2023 – 21<sup>st</sup> November 2024

During the reporting period, no further vegetation clearance was undertaken as compared to that of the previous reporting period (Year 1) as construction works were on hold while Cultural Heritage salvage was being undertaken.

## EPBC Approval Conditions & Compliance Table

The following table provides details as to whether Greater Western Water are compliant with the conditions of EPBC 2018/8260. The EPBC approval is attached in Appendix A.

Condition Number / Reference	Condition	Compliance	Summary of Evidence
1	<p>Within the project area, the approval holder must not clear more than:</p> <p>a. 10.459 hectares of Golden Sun Moth habitat.</p> <p>b. 4.961 ha of NTGVVP</p>	Compliant	<p>Issued for Construction drawings detail the approved construction footprint which aligns with what has been mapped in the Biodiversity Assessment as approved for removal under the EPBC Approval.</p> <p>The construction footprint was set-out via survey and delineated on site using star pickets and hi-vis flagging. Refer to Appendix B showing a Nearmap image during construction on the western side of Green Hill Road, dated Thursday 20<sup>th</sup> July 2023. As no vegetation clearance was undertaken during this reporting period, evidence has been provided from the previous reporting period.</p>
2	<p>Prior to the commencement of the action, to compensate for the loss of 10.459 ha of Golden Sun Moth habitat and the loss of 4.961 ha of NTGVVP, the approval holder must protect the offset areas by finalising a Section 173 agreement under the <i>Planning and Environment Act 1987</i> (Vic). The Section 173 Agreement must not be removed unless the site is secured.</p>	Non-compliant	<p>Two Offset Sites were protected by finalising Section 173 agreements with the landowners under the Planning and Environment Act at the following locations:</p> <ul style="list-style-type: none"> <li>• Mt. Gow: 29<sup>th</sup> June 2021</li> <li>• Cressy: 30<sup>th</sup> November 2022</li> </ul> <p>Refer to Appendix C for the Mt. Gow Section 173 agreement and Appendix D for the Cressy Section 173 agreement.</p> <p>The action commenced on the 21<sup>st</sup> November 2022 as detailed in Appendix E. As the Cressy Section 173 agreement was signed following the date of the commencement of the action, this</p>

Condition Number / Reference	Condition	Compliance	Summary of Evidence
			condition has been marked as non-compliant. However, it is noted that the landowner, their mortgagee and Greater Western Water all signed the Section 173 agreement prior to the commencement of the action. Colac Otway Shire Council were the last to sign the Section 173 agreement and were unable to do so until the 30 <sup>th</sup> of November 2022.
3	Within 24 months of this approval the offset areas must be secured.	Non-compliant	<p>EPBC 2018/8260 approval is dated 4<sup>th</sup> May 2021.</p> <p>The Mt. Gow Offset Site was secured on the 3<sup>rd</sup> of April 2023, as evidenced in Appendix F.</p> <p>Following the EPBC approval, the Cressy Offset Site underwent an amendment to the Offset Management Plan, which was subsequently approved by the department on the 20<sup>th</sup> June 2022, as evidenced in Appendix G.</p> <p>Following this approval, the process to secure the site commenced, and was finalised on the 10<sup>th</sup> April 2024. As such, this condition has been marked as non-compliant. However, while this is outside of the 24-month period of the EPBC approval, it is still within the 24 month of the subsequent approval. Refer Appendix H as evidence for the site being secured.</p>
4	Within 10 business days of each offset area being secured, the approval holder must provide the department with:	Non-compliant	Confirmation of the Mt. Gow Offset Site being secured was provided to DCCEEW on the 18 <sup>th</sup> August 2023, which is outside the 10 business day period, hence this

Condition Number / Reference	Condition	Compliance	Summary of Evidence
	<p>written evidence demonstrating that all the offset area has been secured; and</p> <p>shapefiles and the offset attributes for the offset area.</p>		<p>condition has been marked non-compliant. Refer Appendix I for GWW correspondence with the department containing the land title as evidence.</p> <p>Confirmation of the Cressy site being secured was provided to DCCEW on the 12<sup>th</sup> of June 2024, which is again outside the 10 business day period. This evidence is provided in Appendix H. However, please note GWW were only advised by TFN that the offset area was secured on the 11<sup>th</sup> of June 2024, refer Appendix J for this correspondence.</p> <p>Refer Appendix J as evidence that the shapefiles were sent through.</p>
5	<p>Prior to the commencement of the action, the approval holder must implement the Offset Management Plan for each offset area, and must continue to implement the Offset Management Plan for each offset area for the duration of the approval.</p>	Compliant	<p>Refer Appendix K which contains correspondence pertaining to the implementation of the OMP.</p> <p>Refer to the following appendices containing Year 2 Monitoring Reports for each offset site which demonstrate the continued implementation of the OMPs:</p> <ul style="list-style-type: none"> <li>• Appendix L – Mt. Gow Monitoring Report</li> <li>• Appendix M – Cressy Monitoring Report</li> </ul>
6	<p>If the approval holder wishes to carry out any activity within an offset area other than in accordance with the Offset Management Plan, the approval holder must submit a revised version of the Offset Management Plan to the department for the Minister's written approval. The approval holder must not commence the varied activity until the Minister has approved the varied management</p>	Compliant	<p>No activities other than what has been approved in the Offset Management Plan have been undertaken.</p>

Condition Number / Reference	Condition	Compliance	Summary of Evidence
	plan in writing. If the Minister approves the revised Offset Management Plan, the revised version must be implemented. A revised Offset Management Plan must not result in a reduced environmental outcome for the Golden Sun Moth or NTGVVP.		
7	The approval holder must notify the department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action.	Non-compliant	The action commenced on the 21 <sup>st</sup> November 2022, however the department was not notified until the 13 <sup>th</sup> December 2022, which is outside the 10 business day period. In this instance the department chose not to take any further action. Refer Appendix N for this correspondence.
8	The approval holder must maintain accurate and complete compliance records	Compliant	In addition to undertaking this Annual Compliance Report and the Offset Site Monitoring Reports contained in Appendix L and M, GWW undertook monthly environmental approval audits during the construction of the pipeline to ensure compliance was maintained with all project approvals requirements, including this EPBC approval. These can be provided on request.
9	If the department makes a request in writing, the approval holder must provide electronic copies of compliance records to the department within the timeframe specified in the request.	Compliant	The department has made no such request.
10	The approval holder must keep the Offset Management Plans published	Compliant	Refer link to GWW Western Irrigation Network website:

Condition Number / Reference	Condition	Compliance	Summary of Evidence
	on the website until the end date of this approval.		<a href="#">Western Irrigation Network (WIN)   Greater Western Water (gww.com.au)</a>
11	The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:	Compliant	This report is the second annual compliance report following the commencement of the action.
	a. publish each compliance report on the website within 60 business days following the relevant 12 month period;	Compliant	This report was published on the website at the above link on the 18 <sup>th</sup> February 2025 as agreed with the department.
	b. notify the department by email that a compliance report has been published on the website and provide the weblink for the compliance report within five business days of the date of publication;	Compliant	An email was provided to the department on the 19 <sup>th</sup> February 2025 confirming that this compliance report was published.
	c. keep all compliance reports publicly available on the website until this approval expires;	Not Applicable	All compliance reports are currently available.
	d. exclude or redact sensitive ecological data from compliance reports published on the website; and	Compliant	Currently nothing has been redacted, however GWW have queried whether the department would like anything redacted.
	e. where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the department within 5 business days of publication.	Not Applicable	

Condition Number / Reference	Condition	Compliance	Summary of Evidence
12	<p>The approval holder must notify the department in writing of any: incident; non compliance with the conditions; or non-compliance with the commitments made in the Offset Management Plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance. The notification must specify:</p> <p>a. any condition which is or may be in breach;</p> <p>b. a short description of the incident and/or non-compliance; and</p> <p>c. the location (including co-ordinates), date, and time of the incident and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.</p>	Non-compliant	<p>There have been no incidents or non-compliances with the commitments made in the Offset Management Plans. However, GWW have not notified the department of the non-compliance with Conditions 2, 3, 4 and 7 of the EPBC approval and hence this condition has been marked as non-compliant. However, the department has now been notified of these non-compliances as part of the submission of this Annual Compliance Report.</p>
13	<p>The approval holder must provide to the department the details of any incident or non-compliance with the conditions or commitments made in the Offset Management Plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:</p> <p>a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;</p>	Compliant	<p>There have been no incidents or non-compliances with the conditions or commitments made in the Offset Management Plans. There are however some ongoing management recommendations which have been made to the Offset Site Landowners as part of the Year 1 and 2 monitoring reports. The details of these recommendations have been provided to both DCCEE and Trust for Nature as part of the submission of these monitoring reports. Evidence of</p>



Condition Number / Reference	Condition	Compliance	Summary of Evidence
	b. the potential impacts of the incident or non-compliance; and		this correspondence is provided in Appendix O.
	c. the method and timing of any remedial action that will be undertaken by the approval holder.		
14	The approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted for the 12 month period starting from the commencement of the action, and that an independent audit of compliance with the conditions of approval is then conducted for each subsequent 12 month period until the completion of the action.	Compliant	Year 2 Independent Audit is currently being undertaken by CH2M Beca and is on track to be submitted within the required timeframe.
15	For each independent audit, the approval holder must:		
	a. provide the name and qualifications of the proposed independent auditor and the draft audit criteria to the department before the end of the subject 12 month period;	Compliant	The auditors, Melody Valentine & Francesca Soler, along with the proposed audit criteria were approved by the department on the 20 <sup>th</sup> January 2025. Refer letter from the department in Appendix P.
			As above.
	b. only commence the independent audit once the audit criteria have been approved in writing by the department; and	Compliant	Audit has commenced in February 2025, following approval of the criteria in December 2023.
	c. submit the audit report to the department within the timeframe	Not Applicable	Audit is on track to be submitted within the specified timeframe. Compliance of

Condition Number / Reference	Condition	Compliance	Summary of Evidence
	specified in the approved audit criteria.		this condition is not applicable for this reporting period.
16	The approval holder must publish the audit report on the website within 10 business days of receiving the department's approval of the audit report and keep the audit report published on the website until the end date of this approval.	Not Applicable	Audit is on track to be submitted within the specified timeframe. Compliance of this condition is not applicable for this reporting period.
17	<p>Within 20 business days after whichever is the earlier of:</p> <p>a. the completion of the action or</p> <p>b. 60 business days before the end date of the period for which the approval has effect,</p> <p>the approval holder must notify the department in writing of the date of the completion of the action and submit all completion data to the department.</p>	Not Applicable	Action is not yet completed.

## **Appendix A: EPBC 2018/8260 Approval**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



## APPROVAL

### Parwan to Melton Pipeline, Victoria (EPBC 2018/8260)

This decision is made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*. Note that section 134(1A) of the **EPBC Act** applies to this approval, which provides in general terms that if the approval holder authorises another person to undertake any part of the action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such condition.

#### Details

<b>Person to whom the approval is granted (approval holder)</b>	Western Region Water Corporation
<b>ABN of approval holder</b>	67 433 835 375
<b>Action</b>	To construct a recycled water transfer pipeline, approximately 12 km in length, transecting between the towns of Parwan and Melton in Victoria [see EPBC referral 2018/8260].

#### Approval decision

My decision on whether or not to approve the taking of the action for the purposes of the controlling provision for the action is as follows.


#### Controlling Provisions

Listed Threatened Species and Communities	
Section 18	Approve
Section 18A	Approve

#### *Period for which the approval has effect*

This approval has effect until 30 June 2040.

#### Decision-maker

<b>Name and position</b>	Kim Farrant Assistant Secretary Environment Assessments (Vic, Tas) and Post Approvals Branch Department of Agriculture, Water and the Environment
<b>Signature</b>	
<b>Date of decision</b>	4 May 2021

#### Conditions of approval

This approval is subject to the conditions under the EPBC Act as set out in ANNEXURE A.

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## ANNEXURE A – CONDITIONS OF APPROVAL

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### Part A – Conditions specific to the action

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1. Within the **project area**, the approval holder must not **clear** more than:
  - a. 10.459 hectares of **Golden Sun Moth habitat**.
  - b. 4.961 ha of **NTGVVP**
2. Prior to the **commencement of the action**, to compensate for the loss of 10.459 ha of **Golden Sun Moth habitat** and the loss of 4.961 ha of **NTGVVP**, the approval holder must protect the **offset areas** by finalising a Section 173 agreement under the *Planning and Environment Act 1987* (Vic). The Section 173 Agreement must not be removed unless the site is **secured**.
3. Within 24 months of this approval the **offset areas** must be **secured**.
4. Within 10 **business days** of each **offset area** being **secured**, the approval holder must provide the department with:
  - a. written evidence demonstrating that all the **offset area** has been **secured**; and
  - b. **shapefiles** and the **offset attributes** for the **offset area**.
5. Prior to the **commencement of the action**, the approval holder must implement the **Offset Management Plan** for each **offset area**, and must continue to implement the **Offset Management Plan** for each **offset area** for the duration of the approval.
6. If the approval holder wishes to carry out any activity within an **offset area** other than in accordance with the **Offset Management Plan**, the approval holder must submit a revised version of the **Offset Management Plan** to the **department** for the **Minister's** written approval. The approval holder must not commence the varied activity until the **Minister** has approved the varied management plan in writing. If the **Minister** approves the revised **Offset Management Plan**, the revised version must be implemented. A revised **Offset Management Plan** must not result in a reduced environmental outcome for the **Golden Sun Moth** or **NTGVVP**.

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### Part B – Standard administrative conditions

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#### Notification of date of commencement of the action

7. The approval holder must notify the **department** in writing of the date of **commencement of the action** within 10 **business days** after the date of **commencement of the action**.

#### Compliance records

8. The approval holder must maintain accurate and complete **compliance records**.
9. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request.

**Note:** **Compliance records** may be subject to audit by the **department** or an independent auditor in accordance with section 458 of the **EPBC Act**, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **department's** website or through the general media.

#### Preparation and publication of plans

10. The approval holder must keep the **Offset Management Plans** published on the **website** until the end date of this approval.

### Annual compliance reporting

11. The approval holder must prepare a **compliance report** for each 12 month period following the date of **commencement of the action**, or otherwise in accordance with an annual date that has been agreed to in writing by the **Minister**. The approval holder must:
  - a. publish each **compliance report** on the **website** within 60 **business days** following the relevant 12 month period;
  - b. notify the **department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within five **business days** of the date of publication;
  - c. keep all **compliance reports** publicly available on the **website** until this approval expires;
  - d. exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**; and
  - e. where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **department** within 5 **business days** of publication.

**Note:** Compliance reports may be published on the **department's** website.

### Reporting non-compliance

12. The approval holder must notify the **department** in writing of any: **incident**; non-compliance with the conditions; or non-compliance with the commitments made in the **Offset Management Plans**. The notification must be given as soon as practicable, and no later than two **business days** after becoming aware of the **incident** or non-compliance. The notification must specify:
  - a. any condition which is or may be in breach;
  - b. a short description of the **incident** and/or non-compliance; and
  - c. the location (including co-ordinates), date, and time of the **incident** and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.
13. The approval holder must provide to the **department** the details of any **incident** or non-compliance with the conditions or commitments made in the **Offset Management Plans** as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying:
  - a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;
  - b. the potential impacts of the **incident** or non-compliance; and
  - c. the method and timing of any remedial action that will be undertaken by the approval holder.

### Independent audit

14. The approval holder must ensure that an **independent audit** of compliance with the conditions of approval is conducted for the 12 month period starting from the **commencement of the action**, and that an **independent audit** of compliance with the conditions of approval is then conducted for each subsequent 12 month period until the **completion of the action**.
15. For each **independent audit**, the approval holder must:
  - a. provide the name and qualifications of the proposed **independent** auditor and the draft audit criteria to the **department** before the end of the subject 12 month period;

- b. only commence the **independent audit** once the audit criteria have been approved in writing by the **department**; and
  - c. submit the audit report to the **department** within the timeframe specified in the approved audit criteria.
16. The approval holder must publish the audit report on the **website** within 10 **business days** of receiving the **department's** approval of the audit report and keep the audit report published on the **website** until the end date of this approval.

### Completion of the action

17. Within 20 **business days** after whichever is the earlier of
- a. the **completion of the action** or
  - b. 60 **business days** before the end date of the period for which the approval has effect, the approval holder must notify the **department** in writing of the date of the **completion of the action** and submit all **completion data** to the **department**.

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## Part C - Definitions

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In these conditions, except where contrary intention is expressed, the following definitions are used:

**Business day** means a day that is not a Saturday, a Sunday or a public holiday in Victoria.

**Clearing** (also **clear**) means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the *Australian weeds strategy 2017 to 2027* for further guidance).

**Commencement of the action** (also **commence the action**) means the first instance of any specified activity associated with the action including **clearing** and **construction**. **Commencement of the action** does not include minor physical disturbance necessary to:

- i. undertake pre-clearance surveys or monitoring programs;
- ii. install signage and /or temporary fencing to prevent unapproved use of the project area;
- iii. protect environmental and property assets from fire, weeds and pests, including erection of temporary fencing, and use of existing surface access tracks;
- iv. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**.

**Completion data** means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **department's** preferred spatial data format is **shapefile**.

**Completion of the action** means the time at which all approval conditions (except condition 17) have been fully met.

**Compliance records** means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.

**Compliance reports** means written reports:

- i. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **Offset Management Plan**;
- ii. consistent with the **department's Annual Compliance Report Guidelines** (2014);
- iii. include a **shapefile** of any clearance of any **protected matters**, or their habitat, undertaken within the relevant 12 month period; and



- iv. annexing a schedule of all **Offset Management Plan** prepared and in existence in relation to the conditions during the relevant 12 month period.

**Construction** means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of temporary fences and signage.

**Cressy offset area** means the areas protected for the conservation of the **Golden Sun Moth** (shown as 'Proposed Golden Sun Moth offset site' in Attachment B) and the **NTGVVP** community (shown as 'NTGVVP offset site' Attachment B).

**Department** means the Australian Government agency responsible for administering the **EPBC Act**.

**EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

**Golden Sun Moth** means the **EPBC Act** listed threatened species *Synemon plana*.

**Golden Sun Moth habitat** means areas with ecological conditions supporting the **Golden Sun Moth**, as described in the document *Threatened Species Scientific Committee (2013 Approved Conservation Advice for Synemon plana (golden sun moth). Canberra: Department of the Environment and Energy*.

**Incident** means any event which has the potential to, or does, impact on one or more **protected matter(s)**.

**Independent** means a person(s) that does not have any individual, or by employment or family affiliation, conflicting or competing interest(s) with the approval holder; the approval holder's staff, representatives or associated persons; or the action, including any personal, financial, business or employment relationship, other than receiving payment for undertaking the role for which the condition requires an independent person.

**Independent audit** means an audit conducted by an **independent and suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines* (2019).

**Minister** means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.

**Mount Gow offset area** means the areas protected for the conservation of the **Golden Sun Moth** (shown as 'Proposed high quality GSM offset site' and 'Proposed moderate quality GSM offset site' in Attachment A).

**NTGVVP** means the **EPBC Act** listed threatened ecological community Natural Temperate Grassland of the Victorian Volcanic Plain.

**Offset area(s)** means one or all of the **Mount Gow offset area** or the **Cressy offset area**.

**Offset attributes** means relevant features of the **offset area**, including the **EPBC Act** reference number, the physical address of the **offset area**, coordinates of the boundary points in decimal degrees, and the **protected matter** or **protected matters** present at the **offset area**.

**Offset Management Plans** mean the following document, provided to the department on 19 March 2021:

- *EPBC Act referral 2020/8260 Parwan to Melton Pipeline, Victoria, Offset Management Plan: Mount Gow, Shelford, Victoria (EPBC 2018/8260)*, Report for CH2M Beca on behalf of Western Water. Author: Ecology and Heritage Partners Pty Ltd, Melbourne. Final version prepared 9 February 2021.

And the following document, provided to the department on 30 April 2021:

- *EPBC Act referral 2020/8260 Parwan to Melton Pipeline, Victoria, Offset Management Plan: 6060 Hamilton Highway, Cressy, Victoria (EPBC 2018/8260)*, Report for CH2M Beca on behalf of Western Water. Author: Ecology and Heritage Partners Pty Ltd, Melbourne. Final version2 prepared 30 March 2021.

**Project area** means the location of the proposed action, shown by the red line labelled 'Study Area: Preferred Option' in Attachment C.

**Protected matter(s)** means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

**Secure** (also **secured**) means to establish and register a covenant for the long-term protection of the property for the conservation of relevant **protected matters**, under Section 3A of the *Victorian Conservation Trust Act 1972* (Vic) or under a Section 69 agreement under the *Conservation, Forests and Lands Act 1987* (Vic).

**Sensitive ecological data** means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0*.

**Shapefile** means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

**Suitably qualified person** means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.

**Website** means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

**ATTACHMENTS**

**Attachment A – Mount Gow Offset area for the Golden Sun Moth**

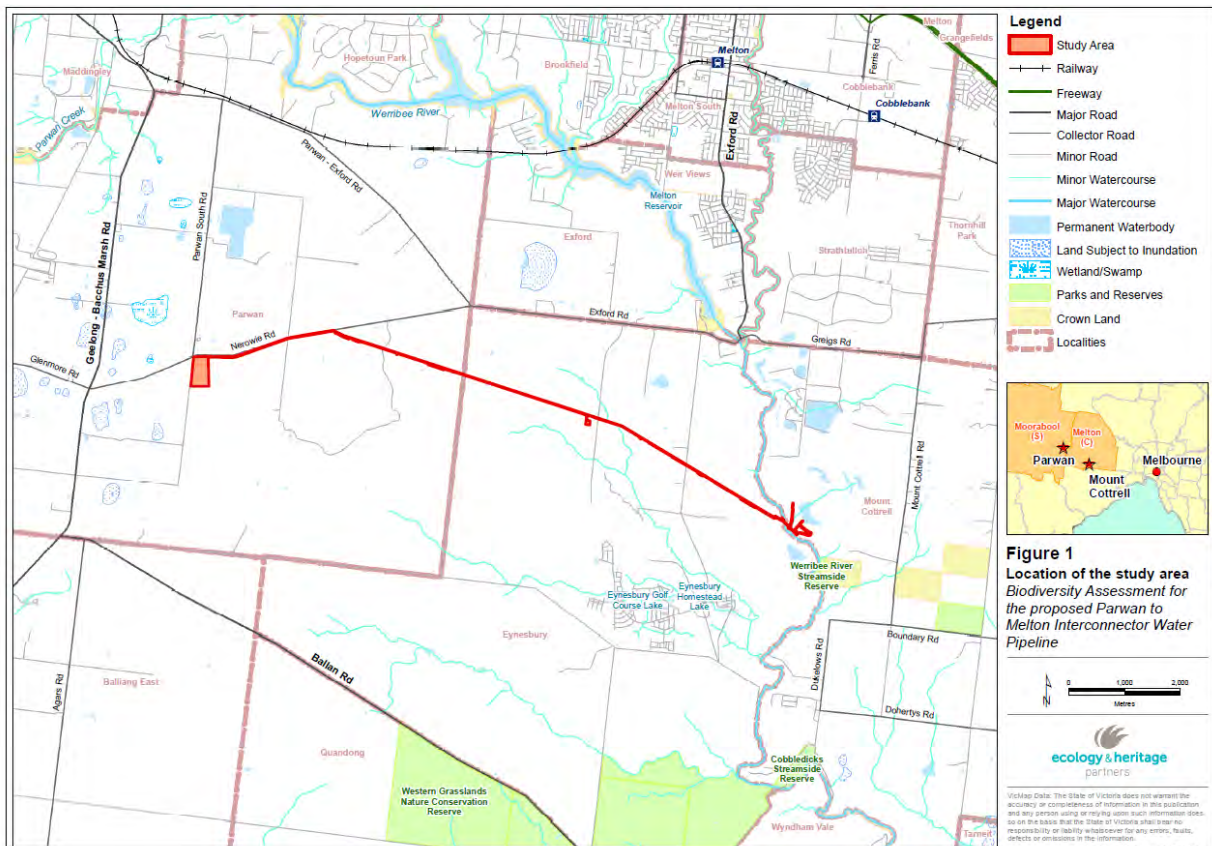




## Attachment B - Cressy Offset area for the Golden Sun Moth and NGTVVP



## Attachment C – Project Area



## **Appendix B: Nearmap Photo – Green Hill Road**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024





Vertical

< Thu Jul 20 2023 >





## **Appendix C: Mt. Gow Section 173 Agreement**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



**PLANNING AND ENVIRONMENT ACT 1987**

**SECTION 173 AGREEMENT**

BETWEEN

**GOLDEN PLAINS SHIRE COUNCIL**

- and -

**CRICHTON PROPERTIES PTY LTD (ACN 611 477 369)**

- and –

**WESTERN REGION WATER CORPORATION**

in relation to land at:

**MOUNT GOW, SHELFORD**

**THIS AGREEMENT** is made the 29th day of June 2021

**BETWEEN**

**GOLDEN PLAINS SHIRE COUNCIL** of 2 Pope Street, Bannockburn 3331 in the State of Victoria (**Responsible Authority**) and

**CRICHTON PROPERTIES PTY LTD (ACN 611 477 369)** of 194 High Street, Belmont 3216 in the State of Victoria (**Owner**) and

**WESTERN REGION WATER CORPORATION** of 36 Macedon Street, Sunbury 3429 in the State of Victoria (**Developer**):

**RECITALS:**

- R.1. The Owner is the registered proprietor of the land situated at Mount Gow, Shelford being part of Crown Allotment 64A on TP263747K and described in Certificate of Title Volume 9575 Folio 544 (**Land**).
- R.2. The Responsible Authority is responsible for the administration and enforcement of the Planning Scheme pursuant to the provisions of the P&E Act.
- R.3. The Developer intends to construct a recycled water transfer pipeline transecting between the towns of Parwan and Melton in Victoria (**Development**) which requires the removal of an area of native vegetation that provides habitat for the Golden Sun Moth.
- R.4. As the removal of native vegetation required for the Development will cause significant impact on listed threatened species and/or endangered ecological communities, it requires approval pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**).
- R.5. On 4 May 2021 and pursuant to sections 130(1) and 133(1) of the EPBC Act, the Minister issued approval 2018/8260 to the Developer allowing the Development (**Approval**).
- R.6. The Land is suitable to provide a partial offset for the removal of native vegetation required as a result of the Development.
- R.7. Conditions 2 and 3 of the Approval provide:
2. *Prior to the commencement of the action, to compensate for the loss of 10.459 ha of Golden Sun Moth habitat and the loss of 4.961 ha of NTGVVP, the approval holder must protect the offset areas by finalising a Section 173 Agreement under the Planning and Environment Act 1987 (Vic). The Section 173 Agreement must not be removed unless the site is secured.*
  3. *Within 24 months of this approval the offset areas must be secured.*
- R.8. Pursuant to the Approval, the reference to 'secured' in Condition 3 of the Permit means the establishment and registration on the Register of a covenant for the long-term protection of the Offset Site for conservation purposes under Section 3A of the *Victorian Conservation Trust Act 1972* (Vic) or an agreement under section 69 of the *Conservation, Forests and Lands Act 1987* (Vic).
- R.9. The Owner has agreed to the Offset Site being used to offset the loss of 5.26 ha of Golden Sun Moth Habitat in accordance with the requirements of the OMP to satisfy the Developer's commitment under the Approval.
- R.10. The Offset Site meets the requirements for an offset of 26.5 ha of Golden Sun Moth Habitat.

- R.11 This Agreement is entered into between the Responsible Authority, the Owner and the Developer pursuant to section 173 of the P&E Act in order to meet the requirements of the Approval and to achieve the objectives of planning in Victoria until such time as the Offset Site is protected for conservation purposes by a covenant under Section 3A of the *Victorian Conservation Trust Act 1972* (Vic) or an agreement under section 69 of the *Conservation, Forests and Lands Act 1987* (Vic) being recorded on the Register.
- R.12 The Land is subject to registered mortgage number AN013263K registered on 11 August 2016 in favour of the Commonwealth Bank of Australia, which mortgagee, as evidenced by its consent on the attestation pages, consents to this Agreement.

## IT IS AGREED AS FOLLOWS:

### Definitions

1. In this Agreement unless inconsistent with the context or subject matter:
  - 1.1. **Agreement** means this Agreement and any agreement executed by the parties varying or expressed to be supplemental to this Agreement;
  - 1.2. **Approval** means the approval issued by the Minister described in Recital R.5;
  - 1.3. **Business day** means a day that is not a Saturday, Sunday or public holiday in Victoria;
  - 1.4. **Current Address for Service**
    - 1.4.1. for the Responsible Authority means the address shown under the heading "Parties" in this Agreement, or any other principal office address listed on the website of the Responsible Authority; and
    - 1.4.2. for the Developer means the address shown under the heading "Parties" in this Agreement, or any other principal office address listed on the website of the Responsible Authority; and
    - 1.4.3. for the Owner means the address shown under the heading "Parties" in this Agreement or any other address provided by the Owner to the Responsible Authority for any purpose or purposes relating to the Land.
  - 1.5. **Current Email Address for Service**
    - 1.5.1. for the Responsible Authority means any email address listed on the website of the Responsible Authority; and
    - 1.5.2. for the Developer means [warren.price@westernwater.com.au](mailto:warren.price@westernwater.com.au); and
    - 1.5.3. for the Owner means any email address provided by the Owner to the Responsible Authority for the express purpose of electronic communication regarding this Agreement.
  - 1.6. **Developer** means Western Region Water Corporation of 36 Macedon Street, Sunbury 3429 in the State of Victoria;;
  - 1.7. **Development** means the development described in R.3;
  - 1.8. **EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth);

- 1.9. **Golden Sun Moth Habitat** means areas with ecological conditions supporting the Golden Sun Moth as described in the document *Threatened Species Scientific Committee (2013 Approved Conservation Advice for Synemon plana (golden sun moth)*. Canberra: Department of the Environment and Energy.
- 1.10. **Land** means the land described in Recital R.1;
- 1.11. **Minister** means the Commonwealth Minister for the Australian Government Department of Agriculture, Water and the Environment;
- 1.12. **Mortgagee** means the person or persons registered or entitled from time to time to be registered by the Register of Titles as Mortgagee of the Land or any part of it;
- 1.13. **Offset Management Plan or OMP** means the *Final Report, Offset Management Plan: Mount Gow, Shelford, Victoria (EPBC 2018/8260) prepared for CH2M Beca (on behalf of Western Water) February 2021* prepared by Ecology and Heritage Partners and as amended from time to time with the approval of the Minister;
- 1.14. **Offset Site** means that part of the Land comprising a total of 26.56 ha of Golden Sun Moth Habitat as depicted in the OMP and described as Site 1 and Site 2 on the Survey Plan attached and marked "Plan for Agreement pursuant to s.173 *Planning and Environment Act 1987*" in Appendix A;
- 1.15. **Owner** means the person or persons registered or entitled from time to time to be registered by the Registrar of Titles as the proprietor or proprietors of an estate in fee simple of the Land or any part of it, and includes a Mortgagee in possession;
- 1.16. **party or parties** means the Owner, the Developer and the Responsible Authority under this Agreement as appropriate;
- 1.17. **P&E Act** means the *Planning and Environment Act 1987*;
- 1.18. **Planning Scheme** means the Golden Plains Planning Scheme and any successor instrument or other planning scheme which applies to the Land; and
- 1.19. **Register** and **Registrar** have the same meaning as in the *Transfer of Land Act 1958* (Vic).
- 1.20. **Responsible Authority** means Golden Plains Shire Council in its capacity as:
- 1.20.1. the authority responsible for administering and enforcing the Planning Scheme; and
- 1.20.2. a municipal council within the meaning of the *Local Government Act 2020*;
- and includes its agents, officers, employees, servants, workers and contractors and any subsequent person or body which is the responsible authority or municipal council.

### Interpretation

2. In the interpretation of this Agreement unless inconsistent with the context or subject matter:
- 2.1. the singular includes the plural and the plural includes the singular;
- 2.2. a reference to a gender includes a reference to all other genders;
- 2.3. words (including defined expressions) denoting persons will be deemed to include all trusts, bodies and associations, corporate or unincorporated, and vice versa;

- 2.4. a reference to a person includes a reference to a firm, corporation, association or other entity and their successors in law;
- 2.5. a reference to a statute includes any statute amending, consolidating or replacing that statute and includes any subordinate instruments made under that statute;
- 2.6. the Recitals to this Agreement are and will be deemed to form part of this Agreement including any terms defined within the Recitals;
- 2.7. references to the parties will include their transferees, heirs, assigns, and liquidators, executors and legal personal representatives as the case may be;
- 2.8. reference to a document or agreement includes reference to that document or agreement as changed, novated or replaced from time to time; and
- 2.9. where a word or phrase is given a definite meaning in this Agreement, a part of speech or other grammatical form for that word or phrase has a corresponding meaning.

### **Specific Obligations of the Owner**

- 3. The Owner covenants, acknowledges and agrees with the Responsible Authority and separately covenants, acknowledges and agrees with the Developer that until such time as the recording on the Register of a covenant on the Land under section 3A of the *Victorian Conservation Trust Act 1972* (Vic) or an agreement in respect of the Land under section 69 of the *Conservation, Forests and Lands Act 1987* (Vic) the Owner will:
  - 3.1. implement the OMP on the Offset Site from the date of this Agreement;
  - 3.2. comply with the requirements of the OMP including all management monitoring and reporting requirements at all times from the date of this Agreement;
  - 3.3. otherwise secure and manage the Offset Site in accordance with the OMP for conservation purposes by:
    - 3.3.1. retaining and managing all native vegetation;
    - 3.3.2. excluding domestic stock except as permitted by the OMP;
    - 3.3.3. eliminating weeds and ensuring that the weed cover does not increase beyond the current level;
    - 3.3.4. monitoring and eliminating any new and emerging weeds;
    - 3.3.5. ensuring that pest animals are controlled; and
    - 3.3.6. undertaking biomass management;
  - 3.4. within 10 Business Days of receiving a written request from the Developer, allow the Developer or the Developer's officers, agents or employees to access the Offset Site for the purposes of:
    - 3.4.1. confirming compliance with the OMP; or
    - 3.4.2. conducting any monitoring or auditing required to be undertaken by the Developer pursuant to the OMP or the Approval.

### **Further Covenants of the Owner**

- 4. The Owner warrants and covenants with the Responsible Authority and with the Developer that:

- 4.1. it is the registered proprietor (or entitled to be so) of the Land;
  - 4.2. save as shown in the certificate of title to the Land, there are no mortgages, liens, charges, easements or other encumbrances or any rights inherent in any person affecting the Land or any part of it and not disclosed by the usual searches;
  - 4.3. neither the Land nor any part of it is subject to any right obtained by adverse possession or subject to any easements, rights or encumbrances mentioned in section 42 of the Transfer of Land Act 1958 (Vic);
  - 4.4. it will not sell, transfer, dispose of, assign, mortgage or otherwise part with possession of the Land or any part of it without first providing to its successors a copy of this Agreement;
  - 4.5. it will do all that is necessary to enable the Responsible Authority to make application to the Registrar of Titles, including the signing of any further agreement, acknowledgment or other document to enable this Agreement to be recorded in the Register in accordance with the P&E Act; and
  - 4.6. until such time as this Agreement is recorded in the Register, the Owner must ensure that successors in title will give effect to this Agreement, and do all acts and sign all documents which will require those successors to give effect to this Agreement, including executing a deed agreeing to be bound by the terms of this Agreement, at the Owner's expense.
5. The Owner acknowledges that if it is required to remove, destroy or lop vegetation within the Offset Site other than in accordance with the OMP, it is responsible for obtaining any necessary approvals, including pursuant to the Planning Scheme.

#### **Responsible Authority's Costs to be Paid by the Developer**

6. The Developer covenants to pay, within 20 Business Days of receipt of a written demand, to the Responsible Authority the Responsible Authority's reasonable costs and expenses (including legal expenses) incidental to the:
- 6.1. negotiation, preparation, execution and recording of this Agreement; and
  - 6.2. assessment, negotiation, preparation, execution and recording of any proposed amendment to this Agreement.
7. If there is a dispute in relation to the costs claimed by the Responsible Authority, to the extent that such costs and expenses constitute legal professional costs, the Responsible Authority or the Developer may have these costs assessed by the Law Institute of Victoria and in that event the parties shall be bound the amount of that assessment, with any fee for obtaining such an assessment being borne equally by the Responsible Authority and the Developer.

#### **Interest on overdue moneys**

8. Any amount due under this Agreement but unpaid by the due date incurs interest at the rate prescribed under section 120 of the *Local Government Act 2020* (Vic) and any payment made shall be first directed to payment of interest and then principal amount owing.

#### **Further assurance**

9. The parties to this Agreement will do all things necessary (including signing any further agreement, acknowledgement or document) to give full effect to the terms of this Agreement and to enable this Agreement to be recorded in the Register in accordance with the P&E Act.

#### **Amendment**

10. This Agreement may be amended only in accordance with the requirements of the P&E Act.

**Amendment of OMP**

11. The Developer must not seek to amend the OMP unless it has the written consent of the Owner, which must not be unreasonably withheld.

**No waiver**

12. No waiver by any party of any default in the strict and literal performance of or compliance with any provision, condition or requirement in this Agreement will be deemed to be a waiver of strict and literal performance of and compliance with any other provision, condition or requirement of this Agreement nor to be a waiver of or in any way release any party from compliance with any provision, condition or requirement in the future nor will any delay or omission of any party to exercise any right under this Agreement in any manner impair the exercise of such right accruing to it thereafter.

**No Fettering of Powers of Responsible Authority**

13. The parties acknowledge and agree that this Agreement does not fetter or restrict the power or discretion of the Responsible Authority to make any decision or impose any requirements or conditions in connection with the granting of any planning approval or certification of any plans of subdivision applicable to the Land or relating to any use or development of the Land.

**Notices**

14. All notices and other communications under this Agreement will be sent by prepaid mail, by hand delivery or by email to the addresses of the parties as specified in this Agreement or to such other address or person as any party may specify by notice in writing to the other party or parties, and may be sent by an agent of the party sending the notice. Each notice or communication will be deemed to have been duly received:
  - 14.1. not later than two business days after being deposited in the mail with postage prepaid;
  - 14.2. when delivered by hand; or
  - 14.3. if sent by email upon production of a delivery confirmation report received by the sender which records the time the email was delivered unless the sender received a delivery failure notification.

**Non Compliance**

15. If the Responsible Authority considers that the Owner has not complied with any obligations under this Agreement:
  - 15.1. then it may issue a written notice to the Owner which sets out the nature of the alleged non-compliance;
  - 15.2. the Owner must respond in writing to the notice within ten (10) business days after the notice is given, setting out the Owner's response to the alleged non-compliance and, if substantiated, the actions the Owner proposes to take in order to remedy the non-compliance and the timeframe in which to complete the actions;
  - 15.3. in the event of a failure by the Owner to comply with the written notice within 28 business days after service of the written notice by the Responsible Authority specifying any non-compliance, or in the event of a dispute or difference between the parties which is not resolved, the Owner agrees:
    - 15.3.1. to allow the Responsible Authority, its officers, employees, contractors or agents to enter into the Owner's land and rectify the non-compliance; and



- 15.3.2. to pay to the Responsible Authority its reasonable costs of action taken to achieve compliance with this Agreement including costs of investigating and issuing a notice in accordance with this Clause.

### **Invalidity of any Clause**

16. Notwithstanding anything to the contrary in this Agreement, if any provision of this Agreement will be invalid and not enforceable in accordance with its terms, all other provisions which are self-sustaining and capable of separate enforcement without regard to the invalid provisions will be and continue to be valid and enforceable in accordance with those terms.

### **Agreement Binding on Successors of Owners**

17. This Agreement will extend to and bind the Owner's successors, assigns, administrators, transferees and legal personal representatives and the obligations imposed upon them will also be binding on their successors, transferees, purchasers, mortgagees and assigns as if each of them had separately executed this Agreement.

### **Joint Obligations**

18. In the case of each party that consists of more than one person (including in that expression any corporation) each of those persons covenants, agrees and declares that all of the covenants, agreements, declarations and consents contained in this Agreement and made and given by that party have been entered into, made and given and are binding upon that person both severally and also jointly with the other person or persons constituting that party.

### **Entire Agreement**

19. This Agreement constitutes the entire agreement between the parties in connection with its subject matter and supersedes all previous Agreements or understandings between the parties in connection with its subject matter.

### **Governing Law**

20. This Agreement shall be subject to and construed in accordance with the laws of the State of Victoria and in the case of the Approval, the laws of the Commonwealth of Australia.

### **Exchange of Counterparts by Email**

21. This Agreement may be executed in any number of counterparts:
- 21.1. All counterparts together constitute one agreement;
  - 21.2. A party may execute this Agreement by signing any counterpart;
  - 21.3. This Agreement is binding on the parties on the exchange of executed counterparts. A copy of an original executed counterpart sent by email or by facsimile machine:
    - 21.3.1. must be treated as an original counterpart;
    - 21.3.2. is sufficient evidence of the execution of the original; and
    - 21.3.3. may be produced in evidence for all purposes in place of the original.
  - 21.4. A party which has executed a counterpart of this Agreement or its legal representative may exchange it with another party by sending a copy of that original executed counterpart by email to that other party or its legal representative and if requested by that other party or its legal representative must promptly deliver that original by hand or post. Failure to make that delivery does not affect the validity of this Agreement.

**Commencement and Ending of Agreement**

- 22. This Agreement will commence upon the execution of the Agreement.
- 23. This Agreement will end upon:
  - 23.1 the recording on the Register of a covenant in respect of the Offset Site under section 3A of the *Victorian Conservation Trust Act 1972* (Vic); or
  - 23.2 the recording in the Register of an agreement in respect of the Offset Site under section 69 of the *Conservation, Forests and Lands Act 1987* (Vic); or
  - 23.3 otherwise in accordance with the provisions of the P&E Act.
- 24. In the event that this Agreement is ended under Clause 23 the Responsible Authority will, as soon as practicable following a request from the Owner and at the full cost of the Developer, make an application to the Registrar of Titles in accordance with the P&E Act to cancel the recording of this Agreement in the Register and provide a copy of such application to the Owner within 5 business days upon receipt of a written request.

**EXECUTED AS A DEED**

**SIGNED** on behalf of the **GOLDEN PLAINS** )  
**SHIRE COUNCIL** by the Chief Executive Officer )  
 pursuant an instrument of delegation authorised )  
 by Council in the presence of:



.....  
 Chief Executive Officer

.....  
 Witness



**EXECUTED** by **CRICHTON PROPERTIES PTY**  
**LTD ACN 611 477 369** in accordance with Section  
 127 of the Corporations Act 2001:

.....  
 Charles Andrew Crichton Cameron  
 Sole Director & Sole Company Secretary

.....  
 Date:

**Commencement and Ending of Agreement**

22. This Agreement will commence upon the execution of the Agreement.
23. This Agreement will end upon:
- 23.1 the recording on the Register of a covenant in respect of the Offset Site under section 3A of the *Victorian Conservation Trust Act 1972 (Vic)*; or
  - 23.2 the recording in the Register of an agreement in respect of the Offset Site under section 69 of the *Conservation, Forests and Lands Act 1987 (Vic)*; or
  - 23.3 otherwise in accordance with the provisions of the P&E Act.
24. In the event that this Agreement is ended under Clause 23 the Responsible Authority will, as soon as practicable following a request from the Owner and at the full cost of the Developer, make an application to the Registrar of Titles in accordance with the P&E Act to cancel the recording of this Agreement in the Register and provide a copy of such application to the Owner within 5 business days upon receipt of a written request.

**EXECUTED AS A DEED**

**SIGNED** on behalf of the **GOLDEN PLAINS** )  
**SHIRE COUNCIL** by the Chief Executive Officer )  
pursuant an instrument of delegation authorised )  
by Council in the presence of:

\_\_\_\_\_  
Chief Executive Officer

.....  
Witness

**EXECUTED** by **CRICHTON PROPERTIES PTY**  
**LTD ACN 611 477 369** in accordance with Section  
127 of the Corporations Act 2001:

\_\_\_\_\_  
Charles Andrew Crichton Cameron  
Sole Director & Sole Company Secretary

23 JUNE 2021

\_\_\_\_\_  
Date:

**SIGNED SEALED AND DELIVERED** for  
and on behalf of, and with the authority of,  
**WESTERN REGION WATER CORPORATION**  
by its authorised delegate in the exercise of  
a power conferred by an Instrument of  
Delegations dated 21<sup>st</sup> day of August 2020  
in the presence of:

*Jeff Rigby*

.....  
Jeff Rigby  
Managing Director

*Stephen Campbell*

.....  
Name of witness (please print)

*SCampbell*

.....  
Signature of witness

**MORTGAGEE CONSENT**

COMMONWEALTH BANK OF AUSTRALIA as Mortgagee under Instrument of Mortgage No. AN013263K consents to the Owner entering into this Agreement and agrees to be bound by the terms and conditions of this Agreement.

DATED: 29<sup>TH</sup> JUNE 2021

Executed for and on behalf of


**Commonwealth Bank of Australia**

SIGNED, SEALED AND DELIVERED in Sydney  
for and on behalf of the COMMONWEALTH BANK  
of AUSTRALIA by its Attorney

Shireen Musallam

under Power dated 11 December 2000 a certified  
copy of which is filed in Permanent Order Book  
No. 277 at Page 016 who certifies that he/she is

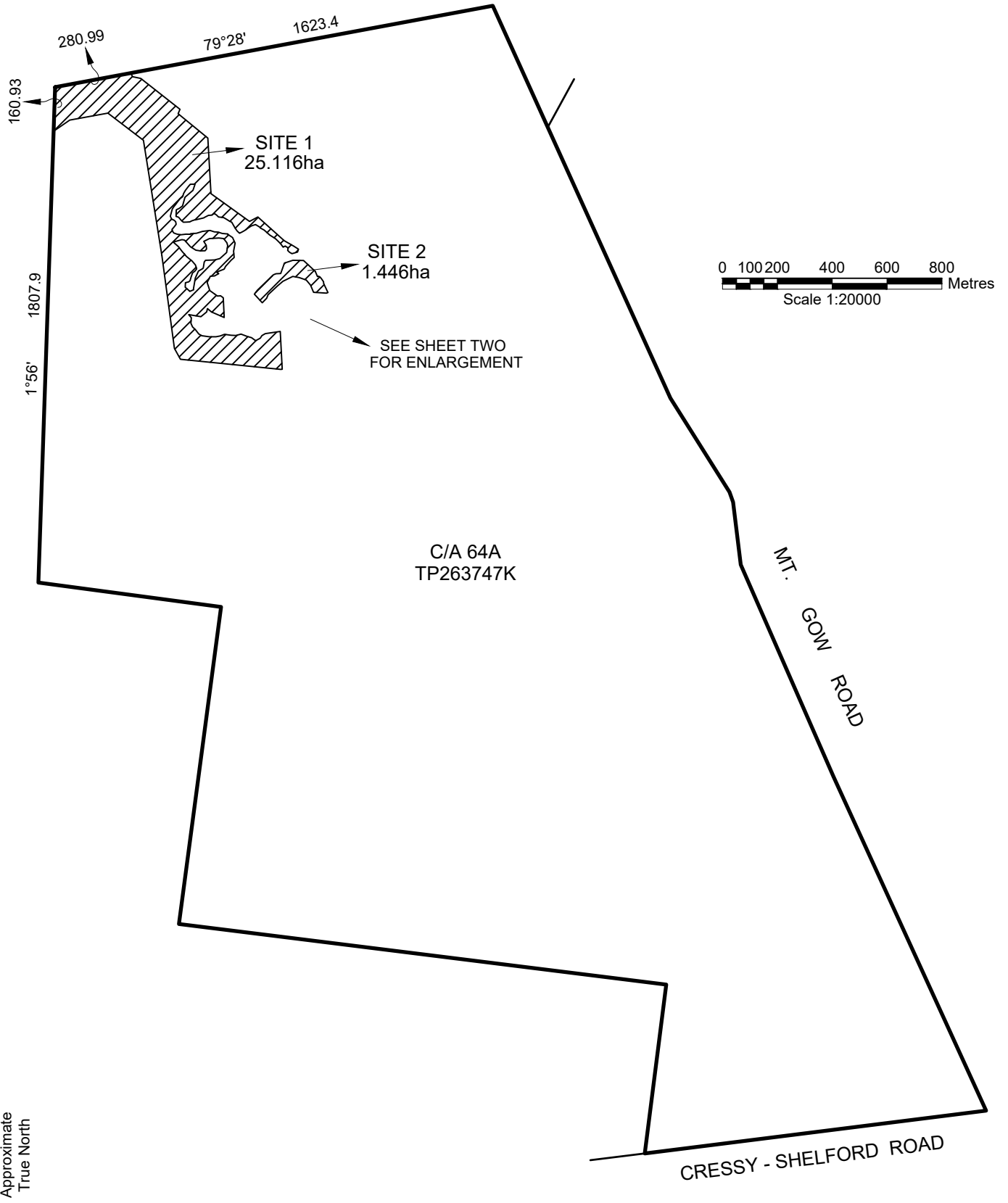
SENIOR CONVEYANCING OFFICER  
Sydney of COMMONWEALTH BANK OF AUSTRALIA  
in the presence of:


  
Romelinda Amurao

Level 4, 5-7 Central Avenue  
South Eveleigh, NSW, 2015

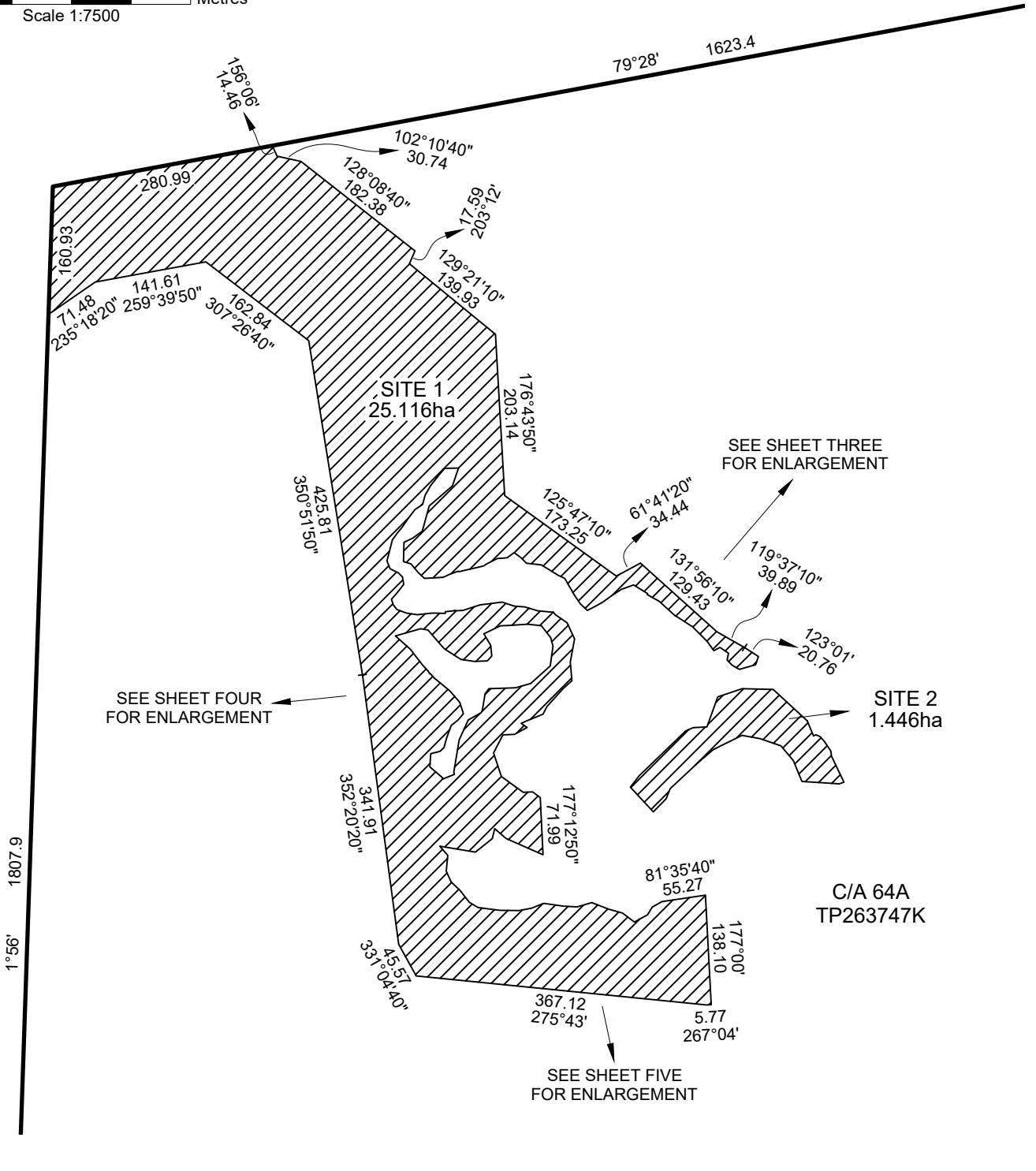
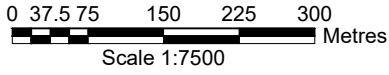
**Appendix A: Plan for Agreement pursuant to s.173 *Planning and Environment Act 1987***


# Site plan



		PARISH OF WINGEEL	
		TITLE REF: VOL. 9575 FOL. 544	
<b>Legend</b>  Site	<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	PLAN REF: TP263747K (C/A 64A)	
		Date: 04/05/2021	SHEET 1 OF 5 SHEETS

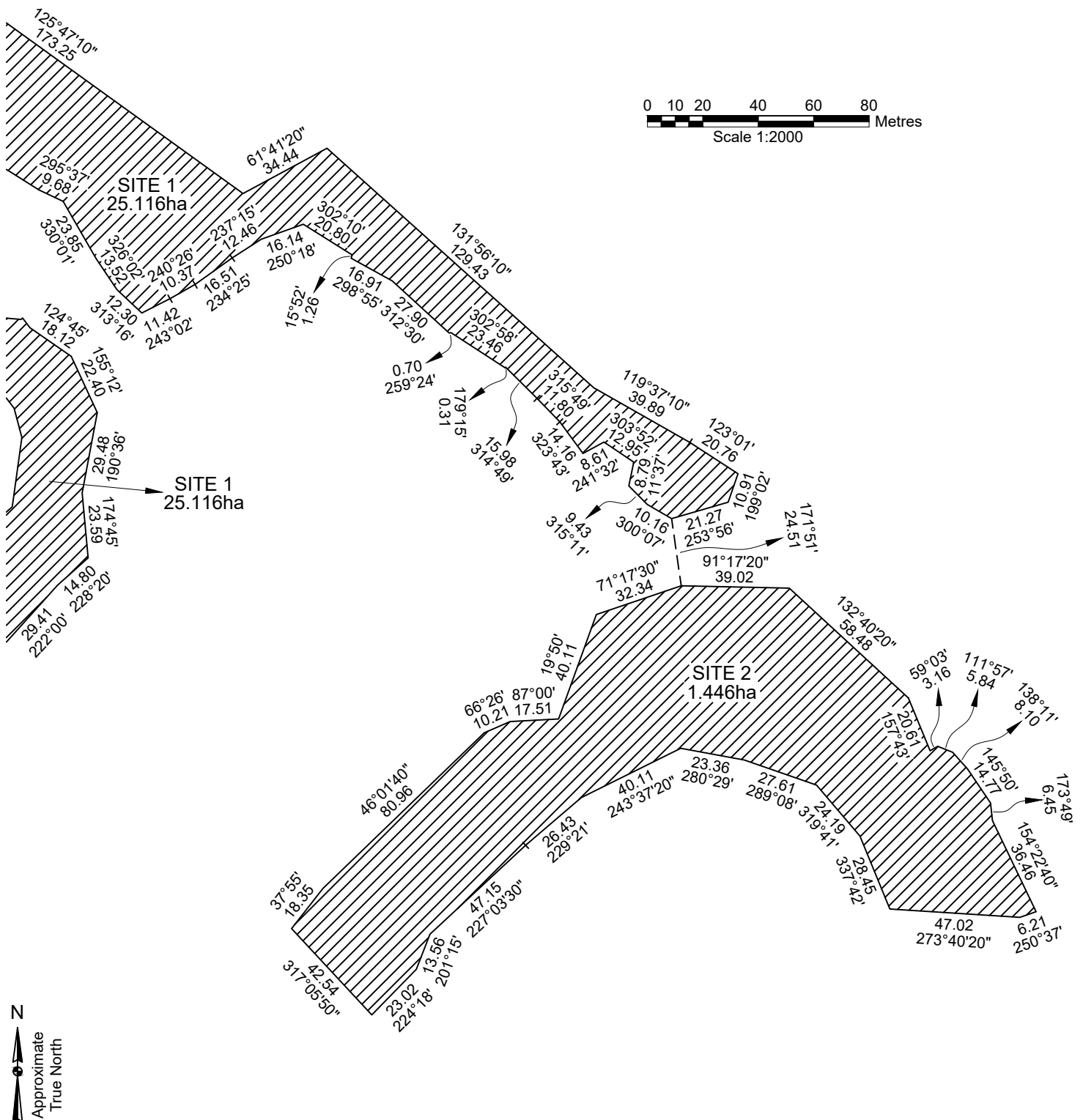
# Site plan




		PARISH OF WINGEEL	
		TITLE REF: VOL. 9575 FOL. 544	
		PLAN REF: TP263747K (C/A 64A)	
<b>Legend</b>  Site	<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	SHEET 2 OF 5 SHEETS	REF: H005721
	Date: 04/05/2021		

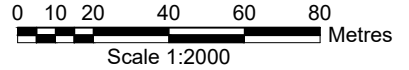
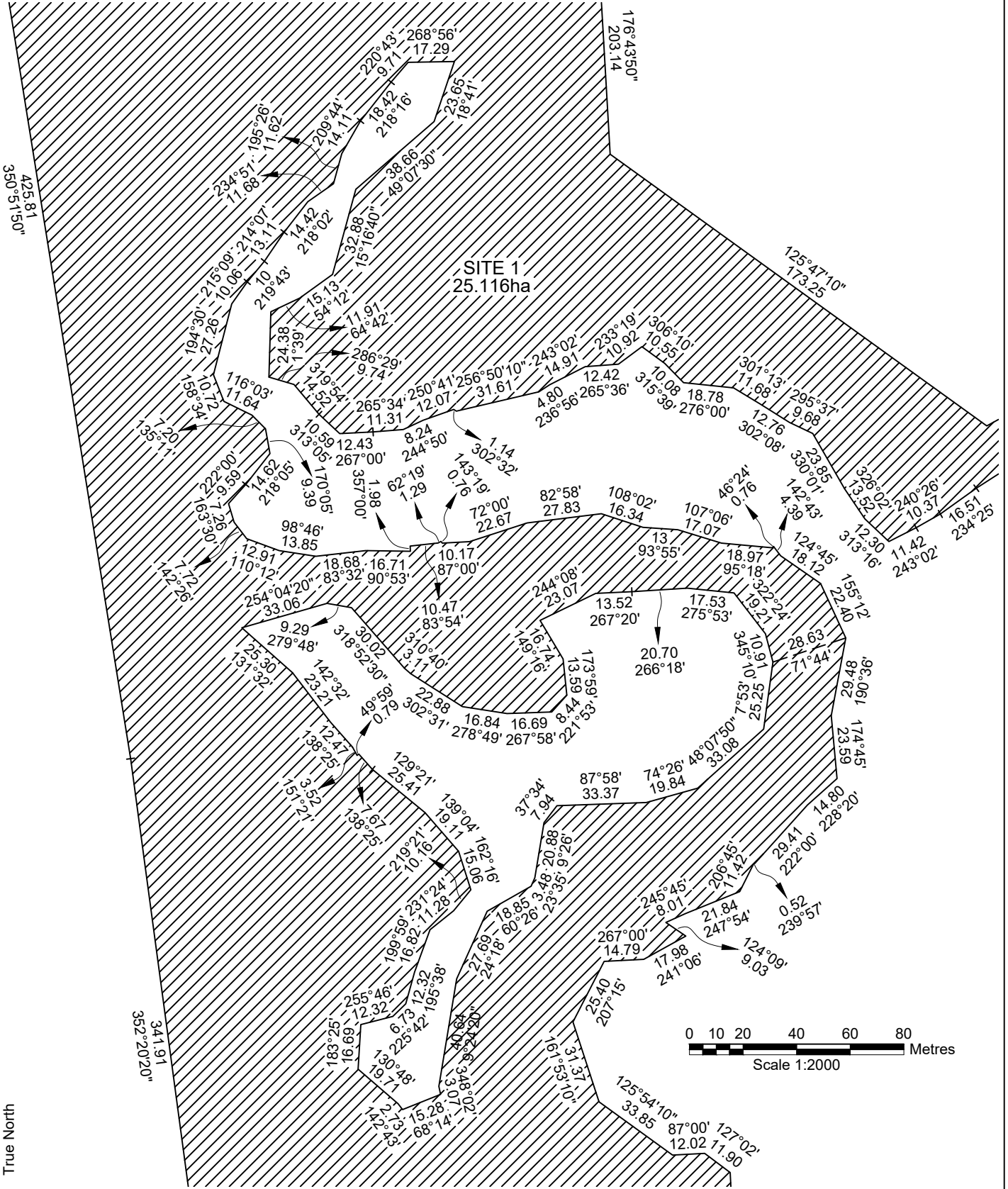



# Site plan



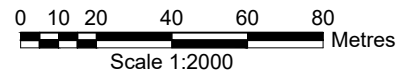
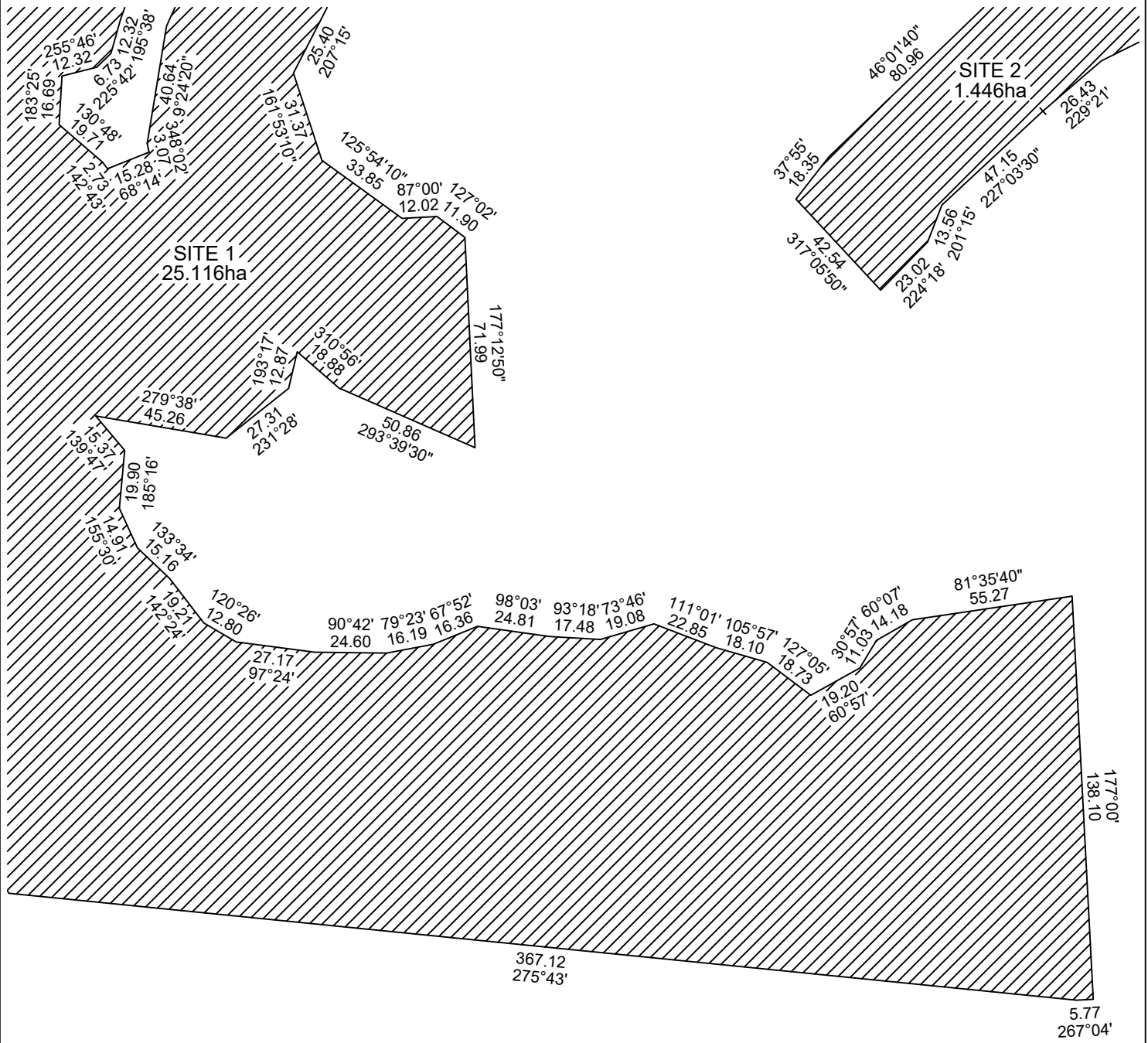
		PARISH OF WINGEEL	
		TITLE REF: VOL. 9575 FOL. 544	
<b>Legend</b>  Site	Prepared by: Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	PLAN REF: TP263747K (C/A 64A)	
	Date: 04/05/2021	SHEET 3 OF 5 SHEETS	REF: H005721


# Site plan



		PARISH OF WINGEEL	
		TITLE REF: VOL. 9575 FOL. 544	
<b>Legend</b>  Site		<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	
<b>Date:</b> 04/05/2021		<b>PLAN REF:</b> TP263747K (C/A 64A)	<b>SHEET 4 OF 5 SHEETS</b>
		REF: H005721	

# Site plan



		PARISH OF WINGEEL	
		TITLE REF: VOL. 9575 FOL. 544	
<b>Legend</b>  Site	<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	PLAN REF: TP263747K (C/A 64A)	
		SHEET 5 OF 5 SHEETS	REF: H005721
Date: 04/05/2021			

## **Appendix D: Cressy Section 173 Agreement**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

**PLANNING AND ENVIRONMENT ACT 1987**

**SECTION 173 AGREEMENT**

BETWEEN

**COLAC OTWAY SHIRE COUNCIL**

- and -

**RD GRIFFITHS TRADING PTY LTD (ACN 627 675 094)**

- and –

**GREATER WESTERN WATER CORPORATION**

in relation to land at:

**6060 HAMILTON HIGHWAY, CRESSY**

30 November 2022 | 20:54:27 AEDT

**THIS AGREEMENT** is made the                      day of                      2022

**PARTIES**

**COLAC OTWAY SHIRE COUNCIL** of 2-6 Rae Street, Colac 3250 in the State of Victoria  
(**Responsible Authority**) and

**RD GRIFFITHS TRADING PTY LTD (ACN 627 675 094)** of 194-196 High Street, Belmont 3316  
the State of Victoria (**Owner**) and

**GREATER WESTERN WATER CORPORATION** of 36 Macedon Street, Sunbury 3429 in the  
State of Victoria (**Developer**)

**RECITALS**

- R.1. The Owner is the registered proprietor of the Land.
- R.2. The Responsible Authority is responsible for the administration and enforcement of the Planning Scheme pursuant to the provisions of the P&E Act.
- R.3. The Developer intends to construct the Development, which requires the removal of an area of native vegetation that provides habitat for the Golden Sun Moth.
- R.4. As the removal of native vegetation required for the Development will cause significant impact on listed threatened species and/or endangered ecological communities, it requires approval pursuant to the EPBC Act.
- R.5. On 4 May 2021, the Minister issued the Approval allowing the Development.
- R.6. On 9 June 2021, the Minister issued the Correction Notification.
- R.7. On 20 June 2022, the Minister approved version 3 of the OMP.
- R.8. The Land is suitable to provide a partial offset for the removal of native vegetation required as a result of the Development.
- R.9. Conditions 2 and 3 the Approval provide:
2. *Prior to the commencement of the action, to compensate for the loss of 10.459 ha of Golden Sun Moth habitat and the loss of 4.961 ha of NTGVVP, the approval holder must protect the offset areas by finalising a Section 173 Agreement under the Planning and Environment Act 1987 (Vic). The Section 173 Agreement must not be removed unless the site is secured.*
  3. *Within 24 months of this approval the offset areas must be secured.*
- R.10. Pursuant to the Approval, the reference to 'secured' in Condition 3 of the Approval means the establishment and registration on the Register of a covenant for the long-term protection of the Offset Site for conservation purposes under Section 3A of the *Victorian Conservation Trust Act 1972 (Vic)* or an agreement under section 69 of the *Conservation, Forests and Lands Act 1987 (Vic)*.
- R.11. The Owner has agreed to the Land being used to offset the loss of 5.1 ha of Golden Sun Moth Habitat and 4.961 ha of NTGVVP in accordance with the requirements of the OMP to satisfy the Developer's commitment under the Approval.
- R.12. The Offset Site meets the requirements for an offset of 30 ha of Golden Sun Moth Habitat and 33 ha of NTGVVP.

- R.13. This Agreement is entered into between the Responsible Authority, the Owner and the Developer pursuant to section 173 of the P&E Act in order to meet the requirements of the Approval and to achieve the objectives of planning in Victoria until such time as the Offset Site is protected for conservation purposes by a covenant under Section 3A of the *Victorian Conservation Trust Act 1972 (Vic)* or an agreement under section 69 of the *Conservation, Forests and Lands Act 1987 (Vic)* being recorded on the Register.
- R.14. The Land is subject to registered mortgage number AR504215A registered on 1 October 2018 in favour of the Rabobank Australia Ltd, which mortgagee, as evidenced by its consent on the attestation pages, consents to this Agreement.

## IT IS AGREED AS FOLLOWS:

### Definitions

1. In this Agreement unless inconsistent with the context or subject matter:
  - 1.1. **Agreement** means this Agreement and any agreement executed by the parties varying or expressed to be supplemental to this Agreement;
  - 1.2. **Approval** means the approval issued by the Minister pursuant to sections 130(1) and 133(1) of the EPBC Act;
  - 1.3. **Business day** means a day that is not a Saturday, Sunday or public holiday in Victoria;
  - 1.4. **Correction Notification** means the correction notice dated 9 June 2021 amending the definition of the offset management plan attached to the Approval in respect of the Land to:
 

*EPBC Act referral 2020/8260 Parwan to Melton Pipeline Victoria, Offset Management Plan: 6060 Hamilton Highway, Cressy, Victoria (EPBC 2018/8260), Report for CH2M Beca on behalf of Western Water: Ecology and Heritage Partners Pty Ltd, Melbourne, Final version 2 prepared 30 April 2021.*
  - 1.5. **Current Address for Service**
    - 1.5.1. for the Responsible Authority means the address shown under the heading "Parties" in this Agreement; and
    - 1.5.2. for the Developer means the address shown under the heading "Parties" in this Agreement; and
    - 1.5.3. for the Owner means the address shown under the heading "Parties" in this Agreement or any other address provided by the Owner to the Responsible Authority for any purpose or purposes relating to the Land.
  - 1.6. **Current Email Address for Service**
    - 1.6.1. for the Responsible Authority means [inq@colacotway.vic.gov.au](mailto:inq@colacotway.vic.gov.au) or any other email address provided by the Responsible Authority to the Owner or Developer for the express purpose of electronic communication regarding this Agreement; and
    - 1.6.2. for the Developer means [warren.price@gww.com.au](mailto:warren.price@gww.com.au) or any other email address provided by the Developer to the Responsible Authority or Owner

- for the express purpose of electronic communication regarding this Agreement; and
- 1.6.3. for the Owner means any email address provided by the Owner to the Responsible Authority or Developer for the express purpose of electronic communication regarding this Agreement.
- 1.7. **Developer** means Greater Western Water Corporation of 36 Macedon Street, Sunbury 3429 in the State of Victoria;
- 1.8. **Development** means the recycled water transfer pipeline transecting between the towns of Parwan and Melton in Victoria;
- 1.9. **EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth);
- 1.10. **Golden Sun Moth Habitat** means areas with ecological conditions supporting the Golden Sun Moth as described in the document *Threatened Species Scientific Committee (2013 Approved Conservation Advice for Synemon plana (golden sun moth)*. Canberra: Department of the Environment and Energy.
- 1.11. **Land** means the land situated at 6060 Hamilton Highway, Cressy being Lots 4 and 5 on Plan of Subdivision 007127 and described in Certificate of Title Volume 11971 Folio 512;
- 1.12. **Minister** means the Commonwealth Minister for the Australian Government Department of Agriculture, Water and the Environment;
- 1.13. **Mortgagee** means the person or persons registered or entitled from time to time to be registered by the Register of Titles as Mortgagee of the Land or any part of it;
- 1.14. **NTGVVP** means the EPBC Act listed threatened ecological community Natural Temperate Grassland of the Victorian Volcanic Plain;
- 1.15. **OMP** means the Offset Management Plan: 6060 Hamilton Highway, Cressy, Victoria (EPBC 2018/8260), Report for CH2M Beca on behalf of Western Water: Ecology and Heritage Partners Pty Ltd, Melbourne, version 3 13 May 2022 and as amended from time to time with the approval of the Minister;
- 1.16. **Offset Site** means that part of the Land with a total area of 33.000ha described as Site 1 on the Survey Plan attached and marked "Plan for Agreement pursuant to s.173 *Planning and Environment Act 1987*" in Appendix A, comprising a total of 30 ha of Golden Sun Moth Habitat and 33 ha of NTGVVP as depicted in the OMP.
- 1.17. **Owner** means the person or persons registered or entitled from time to time to be registered by the Registrar of Titles as the proprietor or proprietors of an estate in fee simple of the Land or any part of it, and includes a Mortgagee in possession;
- 1.18. **party or parties** means the Owner, the Developer and the Responsible Authority under this Agreement as appropriate;
- 1.19. **P&E Act** means the *Planning and Environment Act 1987*;
- 1.20. **Planning Scheme** means the Colac Otway Planning Scheme and any successor instrument or other planning scheme which applies to the Land;
- 1.21. **Register** and **Registrar** have the same meaning as in the *Transfer of Land Act 1958* (Vic); and



- 1.22. **Responsible Authority** means Colac Otway Shire Council in its capacity as:
- 1.22.1. the authority responsible for administering and enforcing the Planning Scheme; and
  - 1.22.2. a municipal council within the meaning of the *Local Government Act 2020*;
- and includes its agents, officers, employees, servants, workers and contractors and any subsequent person or body which is the responsible authority or municipal council.

### Interpretation

2. In the interpretation of this Agreement unless inconsistent with the context or subject matter:
- 2.1. the singular includes the plural and the plural includes the singular;
  - 2.2. a reference to a gender includes a reference to all other genders;
  - 2.3. words (including defined expressions) denoting persons will be deemed to include all trusts, bodies and associations, corporate or unincorporated, and vice versa;
  - 2.4. a reference to a person includes a reference to a firm, corporation, association or other entity and their successors in law;
  - 2.5. a reference to a statute includes any statute amending, consolidating or replacing that statute and includes any subordinate instruments made under that statute;
  - 2.6. the Recitals to this Agreement are and will be deemed to form part of this Agreement including any terms defined within the Recitals;
  - 2.7. references to the parties will include their transferees, heirs, assigns, and liquidators, executors and legal personal representatives as the case may be;
  - 2.8. reference to a document or agreement includes reference to that document or agreement as changed, novated or replaced from time to time; and
  - 2.9. where a word or phrase is given a definite meaning in this Agreement, a part of speech or other grammatical form for that word or phrase has a corresponding meaning.

### Specific Obligations of the Owner

3. The Owner covenants, acknowledges and agrees with the Responsible Authority and separately covenants, acknowledges and agrees with the Developer that until such time as the recording on the Register of a covenant in respect of the Offset Site under section 3A of the *Victorian Conservation Trust Act 1972 (Vic)* or an agreement in respect of the Offset Site under section 69 of the *Conservation, Forests and Lands Act 1987 (Vic)* the Owner will:
- 3.1. implement the OMP on the Offset Site from the date of this Agreement;
  - 3.2. comply with the requirements of the OMP including all management, monitoring and reporting requirements at all times from the date of this Agreement;
  - 3.3. otherwise secure and manage the Offset Site in accordance with the OMP for conservation purposes by:
    - 3.3.1. retaining and managing all native vegetation;
    - 3.3.2. excluding domestic stock except as permitted by the OMP;

- 3.3.3. managing woody weeds in accordance with the OMP;
- 3.3.4. monitoring and removing any new and emerging weeds in accordance with the OMP;
- 3.3.5. ensuring that pest animals are controlled; and
- 3.3.6. undertaking biomass management.

#### **Further Covenants of the Owner**

- 4. The Owner warrants and covenants with the Responsible Authority and with the Developer that:
  - 4.1. it is the registered proprietor (or entitled to be so) of the Land;
  - 4.2. save as shown in the certificate of title to the Land, there are no mortgages, liens, charges, easements or other encumbrances or any rights inherent in any person affecting the Land or any part of it and not disclosed by the usual searches;
  - 4.3. neither the Land nor any part of it is subject to any right obtained by adverse possession or subject to any easements, rights or encumbrances mentioned in section 42 of the Transfer of Land Act 1958 (Vic);
  - 4.4. it will not sell, transfer, dispose of, assign, mortgage or otherwise part with possession of the Land or any part of it without first providing to its successors a copy of this Agreement;
  - 4.5. it will do all that is necessary to enable the Responsible Authority to make application to the Registrar of Titles, including the signing of any further agreement, acknowledgment or other document to enable this Agreement to be recorded in the Register in accordance with the P&E Act; and
  - 4.6. until such time as this Agreement is recorded in the Register, the Owner must ensure that successors in title will give effect to this Agreement, and do all acts and sign all documents which will require those successors to give effect to this Agreement, including executing a deed agreeing to be bound by the terms of this Agreement, at the Owner's expense.
- 5. The Owner acknowledges that if it is required to remove, destroy or lop vegetation within the Offset Site other than in accordance with the OMP, it is responsible for obtaining any necessary approvals, including pursuant to the Planning Scheme.

#### **Responsible Authority's Costs to be Paid by the Developer**

- 6. The Developer covenants to pay, within 20 Business Days of receipt of a written demand, to the Responsible Authority the Responsible Authority's reasonable costs and expenses (including legal expenses) incidental to the:
  - 6.1. negotiation, preparation, execution and recording of this Agreement; and
  - 6.2. assessment, negotiation, preparation, execution and recording of any proposed amendment to this Agreement.
- 7. If there is a dispute in relation to the costs claimed by the Responsible Authority, to the extent that such costs and expenses constitute legal professional costs, the Responsible Authority or the Developer may have these costs assessed by the Law Institute of Victoria and in that event the parties shall be bound by the amount of that assessment, with any fee for obtaining such an assessment being borne equally by the Responsible Authority and the Developer.

**Monitoring costs**

8. The Developer is responsible for meeting the costs of any third-party monitoring required under the OMP.

**Interest on overdue moneys**

9. Any amount due under this Agreement but unpaid by the due date incurs interest at the rate prescribed under section 120 of the *Local Government Act 2020 (Vic)* and any payment made shall be first directed to payment of interest and then principal amount owing.

**Further assurance**

10. The parties to this Agreement will do all things necessary (including signing any further agreement, acknowledgement or document) to give full effect to the terms of this Agreement and to enable this Agreement to be recorded in the Register in accordance with the P&E Act.

**Amendment**

11. This Agreement may be amended only in accordance with the requirements of the P&E Act.

**Amendment of OMP**

12. The Developer must not seek to amend the OMP unless it has the written consent of the Owner, which must not be unreasonably withheld.

**No waiver**

13. No waiver by any party of any default in the strict and literal performance of or compliance with any provision, condition or requirement in this Agreement will be deemed to be a waiver of strict and literal performance of and compliance with any other provision, condition or requirement of this Agreement nor to be a waiver of or in any way release any party from compliance with any provision, condition or requirement in the future nor will any delay or omission of any party to exercise any right under this Agreement in any manner impair the exercise of such right accruing to it thereafter.

**No Fettering of Powers of Responsible Authority**

14. The parties acknowledge and agree that this Agreement does not fetter or restrict the power or discretion of the Responsible Authority to make any decision or impose any requirements or conditions in connection with the granting of any planning approval or certification of any plans of subdivision applicable to the Land or relating to any use or development of the Land.

**Notices**

15. All notices and other communications under this Agreement will be sent by prepaid mail, by hand delivery or by email to the current addresses for service or the current email address for service of the parties and may be sent by an agent of the party sending the notice. Each notice or communication will be deemed to have been duly received:
  - 15.1. not later than seven business days after being deposited in the mail with postage prepaid;
  - 15.2. when delivered by hand;
  - 15.3. if sent by email at the time of receipt in accordance with the *Electronic Transactions (Victoria) Act 2000*.

**Non-Compliance**

16. If the Responsible Authority considers that the Owner has not complied with any obligations under this Agreement:

- 16.1. then it may issue a written notice to the Owner which sets out the nature of the alleged non-compliance;
- 16.2. the Owner must respond in writing to the notice within ten (10) business days after the notice is given, setting out the Owner's response to the alleged non-compliance and, if substantiated, the actions the Owner proposes to take in order to remedy the non-compliance and the timeframe in which to complete the actions;
- 16.3. in the event of a failure by the Owner to comply with the written notice within 28 business days after service of the written notice by the Responsible Authority specifying any non-compliance, or in the event of a dispute or difference between the parties which is not resolved, the Owner agrees:
  - 16.3.1. to allow the Responsible Authority, its officers, employees, contractors or agents to enter into the Owner's land and rectify the non-compliance; and
  - 16.3.2. to pay to the Responsible Authority its reasonable costs of action taken to achieve compliance with this Agreement including costs of investigating and issuing a notice in accordance with this Clause.

#### **Invalidity of any Clause**

17. Notwithstanding anything to the contrary in this Agreement, if any provision of this Agreement will be invalid and not enforceable in accordance with its terms, all other provisions which are self-sustaining and capable of separate enforcement without regard to the invalid provisions will be and continue to be valid and enforceable in accordance with those terms.

#### **Agreement Binding on Successors of Owners**

18. This Agreement will extend to and bind the Owner's successors, assigns, administrators, transferees and legal personal representatives and the obligations imposed upon them will also be binding on their successors, transferees, purchasers, mortgagees and assigns as if each of them had separately executed this Agreement.

#### **Joint Obligations**

19. In the case of each party that consists of more than one person (including in that expression any corporation) each of those persons covenants, agrees and declares that all of the covenants, agreements, declarations and consents contained in this Agreement and made and given by that party have been entered into, made and given and are binding upon that person both severally and also jointly with the other person or persons constituting that party.

#### **Entire Agreement**

20. This Agreement constitutes the entire agreement between the parties in connection with its subject matter and supersedes all previous Agreements or understandings between the parties in connection with its subject matter.

#### **Governing Law**

21. This Agreement shall be subject to and construed in accordance with the laws of the State of Victoria and in the case of the Approval, the laws of the Commonwealth of Australia.

#### **Exchange of Counterparts by Email**

22. This Agreement may be executed in any number of counterparts:
  - 22.1. All counterparts together constitute one agreement;
  - 22.2. A party may execute this Agreement by signing any counterpart;
  - 22.3. This Agreement is binding on the parties on the exchange of executed counterparts. A copy of an original executed counterpart sent by email:

- 22.3.1. must be treated as an original counterpart;
- 22.3.2. is sufficient evidence of the execution of the original; and
- 22.3.3. may be produced in evidence for all purposes in place of the original.

22.4. A party which has executed a counterpart of this Agreement or its legal representative may exchange it with another party by sending a copy of that original executed counterpart by email to that other party or its legal representative and if requested by that other party or its legal representative must promptly deliver that original by hand or post. Failure to make that delivery does not affect the validity of this Agreement.


**Commencement and Ending of Agreement**

- 23. This Agreement will commence upon the execution of the Agreement.
- 24. This Agreement will end upon:
  - 24.1. the recording in the Register of a covenant in respect of the Offset Site under section 3A of the *Victorian Conservation Trust Act 1972* (Vic); or
  - 24.2. the recording in the Register of an agreement in respect of the Offset Site under section 69 of the *Conservation, Forests and Lands Act 1987* (Vic); or
  - 24.3. otherwise in accordance with the provisions of the P&E Act.
- 25. In the event that this Agreement is ended under Clause 24 the Responsible Authority will, as soon as practicable following a request from the Owner or the Developer, and at the full cost of the Developer, make an application to the Registrar of Titles pursuant to the P&E Act to cancel the recording of this Agreement in the Register.


**EXECUTED AS A DEED**

**SIGNED** on behalf of **COLAC OTWAY SHIRE COUNCIL** by \_\_\_\_\_

\_\_\_\_\_ pursuant to an instrument of delegation authorised by a Council resolution, in the presence of:


DocuSigned by:  
  
 \_\_\_\_\_  
 Signature of witness


Mariza Bloomer  
 \_\_\_\_\_  
 Name of witness

DocuSigned by:  
  
 \_\_\_\_\_  
 Signature of delegate

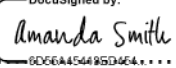
Ian Seuren  
 \_\_\_\_\_  
 Name of delegate

**EXECUTED** by **RD GRIFFITHS TRADING PTY LTD ACN 627 675 094** in accordance with Section 127 of the Corporations Act 2001:

DocuSigned by:  
  
 \_\_\_\_\_  
 Georgina Louise Taylor, Director  
 19 September 2022  
 \_\_\_\_\_  
 Date:

DocuSigned by:  
  
 \_\_\_\_\_  
 James Allan Taylor, Director/Secretary  
 21 September 2022  
 \_\_\_\_\_  
 Date:

**SIGNED SEALED AND DELIVERED** by  
**GREATER WESTERN WATER CORPORATION**  
**ABN 70 066 902 467** by its authorised  
representative under Instrument of Delegation  
current at the date of signing:

DocuSigned by:  
  
.....  
Authorised representative signature

Amanda Smith  
.....  
Name of authorised representative

General Manager Growth and Infrastructure  
.....  
Position of authorised representative

**MORTGAGEE CONSENT**

RABOBANK AUSTRALIA LTD as Mortgagee under Instrument of Mortgage No. AR504215A consents to the Owner entering into this Agreement and agrees to be bound by the terms and conditions of this Agreement.

DATED: 20-10-22

Executed for and on behalf of

**Rabobank Australia Ltd**



Signed by RABOBANK AUSTRALIA LIMITED by its  
attorneys **Alfred Saulon** Senior Manager  
and **BENJAMIN MOMENT** Manager  
who respectively state at the time of executing this instrument  
they have no notice of the revocation of the Power of Attorney  
registered number **Book 277 Page 027 Item 030**  
under the authority of which they have executed this instrument.

Witness:-

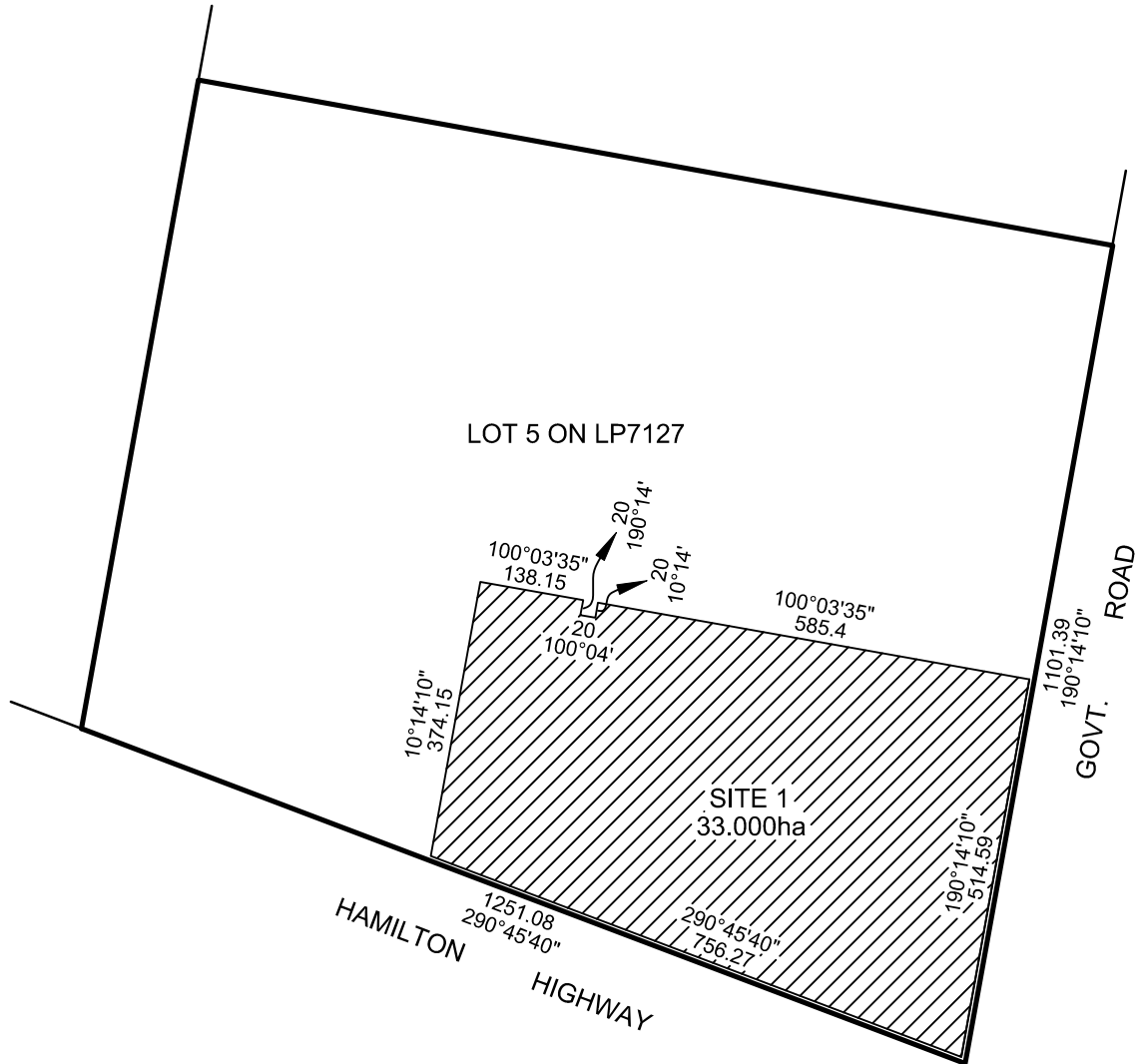
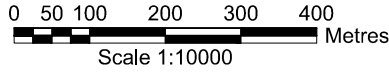


Susan Olsson  
Settlements Officer

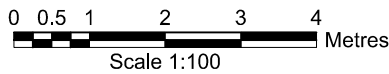
**Appendix A: Plan for Agreement pursuant to s.173 *Planning and Environment Act 1987***




# Site plan



SEE ENLARGEMENT



		PARISH OF YARIMA	
		TITLE REF: VOL. 11971 FOL. 512	
<b>Legend</b>  Site	<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	PLAN REF: LP7127 (LOT 5)	
		SHEET 1 OF 1 SHEETS	REF: 21H0065
Date: 30/06/2021			

## **Appendix E: Commencement Letter**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



Australian Government

Department of Climate Change, Energy,  
the Environment and Water

Ref: EPBC 2018/8260

Email: [EPBCmonitoring@dcceew.gov.au](mailto:EPBCmonitoring@dcceew.gov.au)

Stephen Campbell  
Western Irrigation Network (WIN) Engineering Co-Ordinator  
Greater Western Water  
Butlers Road  
MT COTTRELL VIC 3024

Dear Stephen,

**Commencement of the Action – Parwan to Melton Pipeline, Victoria, EPBC 2018/8260**

I refer to your email on 13 December 2022 on behalf of Western Region Water Corporation notifying the Department of Climate Change, Energy, the Environment and Water (the department) of commencement of the action for the Parwan to Melton Pipeline, VIC project in accordance with condition 7 of the *Environment Protection and Biodiversity Conservation Act 1999* (the Act) EPBC 2018/8260 approval.

I note that the action commenced on 21 November 2022.

**Condition 11 – Annual Compliance Reporting**

Condition 11 of the approval requires the approval holder to prepare an Annual Compliance Report for each 12 month period following the date of commencement of the action. The approval holder must continue to publish each report and notify the department of publication until the expiry of the approval on **30 June 2040**. The reports must be published within 60 business days of every 12 month anniversary of commencement. Documentary evidence of publication must be provided to the department within 5 business days the report is published.

Please notify the department of publication of the reports by email, including the link to where the report is publicly available, to [EPBCmonitoring@dcceew.gov.au](mailto:EPBCmonitoring@dcceew.gov.au). Please note the first Annual Compliance Report is due to the department by **19 February 2024**.

When preparing the report please refer to the department's Annual Compliance Report Guidelines available on the department's website at <http://www.environment.gov.au/epbc/publications/annual-compliance-report-guidelines>

Please note that the conditions of approval require the approval holder to maintain accurate records of all activities associated with, or relevant to, the approval conditions so that they can be made available to the department on request. These documents may be subject to audit and be used to verify compliance. Summaries of audits may be published by the department.

More information about the department's Monitoring and Audit program is available on the department's website at <http://www.environment.gov.au/epbc/compliance-and-enforcement/auditing>.

Section 142 of the Act requires an approval holder to comply with conditions attached to an approval. Penalties may apply to approval holders who contravene conditions.

If you would like to discuss this matter further, please contact Olivia Moore at [EPBCmonitoring@dcceew.gov.au](mailto:EPBCmonitoring@dcceew.gov.au).

Yours sincerely,

A handwritten signature in black ink, appearing to be 'TL', written over a diagonal line that extends from the top left towards the center.

Thomas Long  
Assistant Director  
Environmental Audit Section

23 December 2022

## **Appendix F: Mt. Gow Covenant**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

AW922733A

**VICTORIA**

**APPLICATION FOR NOTIFICATION OF  
COVENANT**

Lodged by:

Name: Trust for Nature

Phone: (03) 8631 5808

Address: 5/379 Collins Street, Melbourne

Customer Code: 3562M

**TRUST FOR NATURE (VICTORIA)** of Level 5, 379 Collins Street, Melbourne established pursuant to the Victorian Conservation Trust Act 1972 **HEREBY APPLIES** pursuant to Section 3A (10) of the Act for entry of a Memorandum of the Covenant contained in the attached Instrument dated the **3 April 2023** which Instrument creates a Covenant pursuant to Section 3A of the said Act over the land marked hatched on the Plan being part of the land contained in Certificate of Title Volume 9575 folio 544.

**DATED this 29<sup>th</sup> day of May 2023.**

**Trust for Nature (Victoria)  
by its Solicitor and Agent**

*L. Graystone*

AW922733A



**Deed of Covenant  
for the Conservation of Land**

Crichton Properties Pty Ltd [ACN 611 477 359]

Trust for Nature (Victoria)

Property Address: Crown Allotment 64A, Parish of Wingeel

Mt Gow Road, Shelford VIC 3329

---

**Note:** This Deed of Covenant includes land management obligations to protect and improve native vegetation for the purpose of generating Commonwealth Biodiversity Credits.

**Note:** Owners are obliged under this Covenant to promptly notify the Trust of any change in ownership or another encumbrance relating to the Land or any lease or other interest in Land which the Owners grant to any other person.

[www.trustfornature.org.au](http://www.trustfornature.org.au)

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## Parties

**Crichton Properties Pty Ltd** [ACN 611 477 359] (**Owner**) of 194 High Street, Belmont VIC 3216

**Trust for Nature (Victoria)** [ABN 60 292 993 543] (**Trust**) of 5/379 Collins St, Melbourne 3000

## Recitals

- A The Owner is the registered proprietor of the land described in Schedule 1 and desires to enter into a covenant with the Trust under section 3A of the Act and which runs with the Land empowering the Trust to enforce the covenant against the Owner.
- B The Trust and the Owner have agreed to enter into this Covenant, being satisfied that the Land possesses the appropriate characteristics and acknowledging that the Parties' aims and purposes are the conservation of the Land in accordance with the Covenant Objectives.
- C Covenant Objectives are the conservation of the Land for public scientific and public educational purposes including, as relevant to the Land its:
- (a) native plants and wildlife;
  - (b) natural interest or beauty;
  - (c) ecological significance;
  - (d) historical interest;
- D The Trust and the Owner recognise that the intent of this Covenant is to contribute to the National Reserve System, under the Protected Area criteria established by the International Union for Conservation of Nature (IUCN 2008).

## 1. Definitions

In this Covenant the following definitions apply:

**Act** means the *Victorian Conservation Trust Act 1972* (Vic).

**Conservation Tier** means that part of the land designated as Conservation Tier within Schedule 1 for the purpose of conserving areas which are ecologically significant or areas of importance to the conservation of wildlife or native plants and to be protected and managed for the purposes of generating Commonwealth Biodiversity Credits.

**Covenant** means this document or any schedule or annexure to it.

**Commonwealth Biodiversity Credit** means the credits created on the Land designated as Conservation Tier through an offset package approved by the Commonwealth government in accordance with the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth).

**Covenant Management Plan** means the plan mutually agreed to and signed by the Owner and the Trust for the management of the Land, as amended from time to time and which forms part of this Covenant once signed.

**Covenant Objectives** means the aims and purposes of this Covenant as outlined in Recital C.

**Dwelling** means any habitable structure, including but not limited to a house, permanent caravan, dependent persons' unit or holiday accommodation.

**Exploration** means exploration for minerals and includes:

- i. conducting geological, geophysical and geochemical surveys; and
- ii. drilling; and
- iii. taking samples for the purposes of chemical or other analysis; and
- iv. extracting minerals from the Land, other than for the purpose of producing them commercially; and
- v. in relation to an exploration licence, anything else (except mining) that is specified in the licence.

**Land** means the land shown hatched on the plan attached at Schedule 1 being part of the land more particularly described in Certificate of Title Volume 9575 Folio 544.

**Letter of Approval** means a letter signed by the Trust providing approval for the Owner to undertake specific activities on the Land otherwise prohibited under this Covenant.

**Licence** means an exploration licence, mining licence, a prospecting licence or a retention licence as set out in the *Minerals Resources (Sustainable Development) Act 1990*.

**Mining** means extracting minerals from the Land for the purpose of producing them commercially and includes processing and treating ore.

**Minister** means the Minister of the Crown administering the Act.

**Mortgagee** means the person or persons registered or entitled from time to time to be registered by the Registrar of Titles as Mortgagee of the Land or any part of it.

**Offset Management Plan** means a plan (in Schedule 2 of this Covenant) that outlines management obligations to improve the extent and quality of biodiversity on the Land for the purpose of generating Commonwealth Biodiversity Credits.

**Owner** means the person or persons registered or entitled from time to time to be registered by the Registrar of Titles as proprietor or proprietors of an estate in fee simple of the Land or any part of it, including any Mortgagee-in-possession and all future registered proprietors of the Land.

**Parties** means the parties to this Covenant.

**Permitted Defendable Space and Fire Protection Works** means vegetation permitted to be removed under the applicable planning scheme (as amended from time to time), whether under a planning permit or exemption in the planning scheme, for bushfire protection purposes including for the creation of defendable space from an existing or new building or other fire protection works.

**Subdivision** means the subdivision as defined with the *Subdivision Act 1988 (Vic)* (or its successor) or any consolidation of land or boundary realignment.

**Trust** means Trust for Nature (Victoria) as established under section 2 of the Act.

## 2. Interpretation

In the interpretation of this Covenant, the following provisions apply unless the context otherwise requires:

- 2.1. Headings are inserted for convenience only and do not affect the interpretation of this Covenant.
- 2.2. A reference in this Covenant to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.
- 2.3. A reference in this Covenant to any document or agreement is to that document or agreement as amended, novated, supplemented or replaced.
- 2.4. A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Covenant.
- 2.5. An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- 2.6. Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- 2.7. A word which indicates the singular also indicates the plural, a word which indicates the plural also indicates the singular, and a reference to any gender also indicates the other genders.
- 2.8. A reference to the word 'include' or 'including' is to be interpreted without limitation.
- 2.9. Any schedules and attachments form part of this Covenant.

### 3. Deed of Covenant

- 3.1. The Trust and the Owner agree without limiting or restricting their respective powers to enter into this Covenant and, insofar as it can be so treated, this Covenant is made pursuant to section 3A of the Act.

### 4. Registration

- 4.1. The Owner consents to the Trust making application to the Registrar of Titles to make a recording of this Covenant in the Register on the Certificate of Title of the Land in accordance with section 3A(10) of the Act and do all things necessary to enable the Trust to do so including signing any further agreement, acknowledgement or document or procuring the consent to this Covenant of any Mortgagee or caveator to enable the recording to be made in the Register under that section.

### 5. Effect of Agreement

- 5.1. This Covenant shall be deemed to come into force and effect from the date of execution of this Covenant and the benefit and burden of this Covenant shall be annexed to the Land.
- 5.2. The obligations of the Owner under this Covenant will take effect as separate and severable covenants which shall be annexed to and run at law and equity with the Land to bind the Owner and each successor, assignee or transferee of the Owner, the registered proprietor, the mortgagee in possession and the beneficial owner for the time being of the Land.

### 6. Owner Covenants

The Owner covenants at all times to observe and perform the following obligations and duties in relation to the Land:

#### *General*

- 6.1. To use and manage the Land in a manner, which in the reasonable opinion of the Trust, is consistent with the Covenant Objectives.
- 6.2. Not to do any act or thing upon the Land, which in the reasonable opinion of the Trust, is prejudicial to its conservation or the Covenant Objectives.

#### *Development and works*

- 6.3. In particular, on and with respect to the Land, the Owner must not permit, cause or allow to occur unless approved subject to clause 10;
- 6.3.1. the Subdivision of the Land;
- 6.3.2. the construction or placement of any structure or Dwelling on the Land;

- 6.3.3. the erection of any transmission lines or other services or works (unless required by law);
- 6.3.4. the construction of any dams;
- 6.3.5. erect or display any notice, hoarding or advertising matter save for identification signs and interpretive signs.

***Use and management***

- 6.4. In particular, on and with respect to the Conservation Tier the Owner must not permit, cause or allow to occur, unless otherwise approved by the Trust in accordance with clause 10:
  - 6.4.1. the removal or destruction of any local indigenous trees, plants or grasses, dead or alive, or the planting of any flora other than local indigenous flora;
  - 6.4.2. any act or omission which may adversely affect any local indigenous flora or any indigenous fauna or their related habitats;
  - 6.4.3. (unless required by law) any deterioration in the natural state or in the flow, supply, quantity or quality of any body of water;
  - 6.4.4. livestock to enter save for livestock entering for the purpose of grazing consistent with the Covenant Objectives and pursuant to the Covenant Management Plan or Offset Management Plan;
  - 6.4.5. the introduction of any non-indigenous fauna, or any cat, dog or other domestic animals save for working dogs to assist with management of livestock;
  - 6.4.6. the removal, introduction or disturbance of any soil, rocks, or other minerals;
  - 6.4.7. the operation of any trade, industry or business;
  - 6.4.8. the recreational use of trail bikes or any vehicles;
  - 6.4.9. the accumulation of rubbish or storage of any materials other than materials being used or intended to be used by the Owner on the Land;
  - 6.4.10. the removal of any timber including fallen timber;
  - 6.4.11. the establishment or spread of pest animals and pest plants which shall be controlled and, as far as possible, eliminated in accordance with section 20 of the *Catchment and Land Protection Act 1994 (Vic)* (or its successor);
  - 6.4.12. the establishment or spread of high threat pest animals and plants identified by the Trust or in the Offset Management Plan in Schedule 2, which shall be controlled and, as far as possible, eliminated;
  - 6.4.13. the application of fertilizer; and
  - 6.4.14. any other activities not consistent with the Covenant Objectives.

## ***Mining and Exploration***

- 6.5. In relation to any minerals exploration or extraction activity or production of gas, petroleum or other substance proposed on or with respect to the Land, the Owner must:
  - 6.5.1. not to apply for a Licence;
  - 6.5.2. not permit any Mining or Exploration or production of gas, petroleum or other substance proposed on or with respect to the Land, unless required by law;
  - 6.5.3. notify the Trust of any proposed Mining or Exploration or production of gas, petroleum or other substance proposed on or with respect to; and
  - 6.5.4. not consent to any Mining or Exploration or production of gas, petroleum or other substance proposed on or with respect to unless approved by the Trust in writing.

## **7. Further Covenants**

- 7.1. The Owner further covenants and agrees:
  - 7.1.1. to make reasonable efforts to remove pests and weeds from the Land and to prevent their future invasion;
  - 7.1.2. to make reasonable efforts, if necessary, to erect fences which allow free movement of indigenous fauna between adjacent grazing areas and the Land, and to maintain fences and gates in good stock proof order and condition; and
  - 7.1.3. to permit officers, agents or nominees of the Trust acting on behalf of the Trust provided prior notice of at least seven days has been given, to enter the Land in order to monitor and assess its condition, assess compliance with this deed or to prepare the Covenant Management Plan pursuant to clause 9.

## ***Lease or Licence***

- 7.2. The Owner further covenants and agrees upon resolving to lease or licence the Land or any portion of the Land to:
  - 7.2.1. include within the lease or licence provided to any potential lessee or licensee of the Land a copy of this Covenant; and
  - 7.2.2. in writing, procure the agreement of the tenant or licensee to perform and observe the duties and obligations as assumed by the Owner pursuant to this Covenant; and
  - 7.2.3. promptly notify the Trust in writing of any lease or licence entered into for the Land or any portion of the Land.

## ***Sale***

- 7.3. The Owner further covenants and agrees upon entering into any contract to sell the Land or any portion of the Land to:



- 7.3.1. include within the contract provided to any potential purchaser of the Land a copy of this Covenant; and
- 7.3.2. promptly notify the Trust in writing that the Owner has entered into a contract to sell the Land or any portion of the Land.

### ***Other Interest***

- 7.4. The Owner further covenants and agrees before granting or entering into any other contract or disposing of or creating any other interest in the Land or any portion of the Land to:
  - 7.4.1. include within the contract or provide to the person being granted an interest in the Land or any portion of the Land, a copy of this Covenant; and
  - 7.4.2. in writing, procure the agreement of the person being granted an interest in the Land to perform and observe the duties and obligations as assumed by the Owner pursuant to this Covenant; and
  - 7.4.3. promptly notify the Trust in writing that the Owner has granted an interest in the Land or any portion of the Land.

### ***Mortgagee consent***

- 7.5. Without limiting clause 4 (i), the Owner further covenants and agrees that the Owner must obtain Mortgagee consent to the registration of this Covenant on the Certificate of Title to the Land and procure that the Mortgagee signs such documents and does such things as is otherwise necessary to give effect to that consent. The Owner indemnifies the Trust for any costs, loss, damage or expense arising from or in connection with any failure by the Owner to comply with this clause 7.5.

## **8. Offset Management Plan**

- 8.1. The Owner must manage the Conservation Tier in accordance with the Offset Management Plan contained in Schedule 2 and the compliance and payment conditions listed in Schedule 3.
- 8.2. The Offset Management Plan for the Conservation Tier will expire 10 years from the date the Offset Management Plan commenced pursuant to the Section 173 Agreement registered on title, or such later date when the management obligations in the Offset Management Plan have been completed to the Trust's reasonable satisfaction.
- 8.3. The Owner must comply with reasonable requests from the Trust, to the reasonable satisfaction of the Trust, on the performance of management obligations outlined in the Offset Management Plan.
- 8.4. The Owner must prepare an annual written report demonstrating completion of management actions for the preceding year.
- 8.5. If there is any inconsistency between the terms of this Covenant and the provisions of the Offset Management Plan (including any amendment to such Plan) then the provisions of the Offset Management Plan shall prevail.

- 8.6. Upon expiry of the Offset Management Plan, the Conservation Tier will remain subject to the provisions of this Covenant including any obligation to manage the Land in accordance with a Covenant Management Plan.

## **9. Covenant Management Plan**

- 9.1. As soon as practicable upon the expiry of the Offset Management Plan, the Covenant Management Plan must be prepared by the Trust and the Owner to the satisfaction of the Trust.
- 9.2. Upon expiry of the Offset Management Plan the Owner must manage the Conservation Tier in accordance with the Covenant Management Plan.
- 9.3. The Covenant Management Plan may be varied or amended by mutual consent in writing of both Parties, unless otherwise agreed.
- 9.4. The Parties agree that if there is any inconsistency between the terms of this Covenant and the provisions of the Covenant Management Plan, then the terms of this Covenant shall prevail.
- 9.5. The Parties agree that once mutually agreed to and signed by both Parties, the Covenant Management Plan forms a part of this Covenant and is enforceable as if it were part of the Covenant.
- 9.6. If the Parties are unable to agree on the content and actions of the Covenant Management Plan then the dispute resolution process set out in clause 13 must be followed.
- 9.7. The Owner must do all things necessary to give effect to the terms of this Covenant and the Covenant Management Plan.

## **10. Letter of Approval**

- 10.1. The Parties agree that the Trust may provide prior written consent for the Owner to undertake any action not permitted under clause 6 on the following basis:
- 10.1.1. the Owner must obtain the consent of the Trust prior to undertaking any actions or works;
- 10.1.2. the consent must be in the form of a Letter of Approval issued by the Trust;
- 10.1.3. the Trust may place conditions on the grant of consent which must be provided to the Owner in writing; and
- 10.1.4. the consent will not be unreasonably withheld, provided that the Trust is satisfied that the proposal will not prejudice the Covenant Objectives.

## **11. Acknowledgements by the Trust**

- 11.1. The Trust acknowledges that compliance with clause 6 and the restrictions set out in this Covenant may be treated as waived to the extent necessary for:
- 11.1.1. responsible fire protection (including any Permitted Defendable Space and Fire Protection Works), weed and pest control;

11.1.2. acts outside the control of the Owner, including but not limited to:

- (i) war;
- (ii) riot;
- (iii) insurrection;
- (iv) vandalism; and
- (v) natural disaster.

11.1.3. reasonable maintenance of fences, culverts, dams, bridges, watercourses, buildings, tracks, paths, roads and other services;

11.1.4. any act required under any law, rule or regulation of any government or governmental agency, executive or administrative order or act of general or particular application; and

11.1.5. the proper management of the Land as a protected environment for indigenous flora and fauna.

## **12. Default by the Owner**

12.1. Where the Trust believes the Owner has breached or failed to comply with any term of this Covenant relating to the Land, the Trust may issue a notice in writing to the Owner ("Notice") that:

12.1.1. states the notice is a notice under this section;

12.1.2. specifies the nature of the breach;

12.1.3. requests rectification by a nominated date; and

12.1.4. specifies the actions required to remedy the non-compliance with the terms of this Covenant.

12.2. If after 30 days from the date of the Notice the Trust believes that there has been an inadequate response by the Owner to the Notice:

12.2.1. the Trust or its agents may enter the Land to undertake the necessary conservation work;

12.2.2. the Owner must, immediately upon receipt of costs from the Trust, reimburse the Trust for the costs incurred; and

12.2.3. the costs in clause 12.2.2 shall be capable of being recovered by the Trust in any court or competent jurisdiction as a civil debt recovered summarily.

12.3. Where either of the Parties dispute the Notice, the dispute resolution provisions in clause 13 apply.

## **13. Dispute resolution**

### ***Meeting to attempt to resolve disputes***

- 13.1. If a dispute arises under this Covenant or concerning its subject matter, either Party may at any time give written notice to the other requesting that a meeting take place to seek to resolve the dispute. The nominated senior representatives of both Parties must meet within ten days of the notice and try to resolve the dispute in good faith.

Either Party may not unreasonably withdraw from attendance at the meeting.

### ***Performance of obligations***

- 13.2. Despite the existence of a dispute, each Party must continue to perform its obligations under this Covenant.

### ***Mediation***

- 13.3. If the Parties fail to resolve the dispute within 30 days of the meeting under sub-clause 13.1, a mediator must be appointed by the Parties. If the Parties cannot agree on a mediator, the matter will be referred to a mediator chosen by the chairman of the Victorian Chapter of the Institute of Arbitrators and Mediators, Australia, or his or her nominee, for mediation.
- 13.4. Despite the provisions of clause 12 and clause 13, where the Trust determines that the circumstances require immediate action to prevent damage to the conservation of the Land in accordance with the Covenant Objectives, it may pursue any other remedies available to it at law and in equity.
- 13.5. The costs of the mediator and any associated costs, must be met equally between the Parties.

## **14. Miscellaneous**

### ***Entire agreement***

- 14.1. This Covenant contains everything the Parties have agreed in relation to the subject matter it deals with. No Party can rely on an earlier written document or anything said or done by or on behalf of another Party before this Covenant was executed.

### ***Governing law and jurisdiction***

- 14.2. This Covenant is governed by the law of Victoria. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

### ***Severability***

- 14.3. Each provision of this Covenant is individually severable. If any provision is or becomes illegal, unenforceable or invalid in any jurisdiction it is to be treated as being severed from this Covenant in the relevant jurisdiction, but the rest of this Covenant will not be affected. The legality, validity and enforceability of the provision in any other jurisdiction will not be affected.

## ***Variations***

- 14.4. Any variations to this Covenant must be done in accordance with the provisions of the Act.

## ***Waivers***

- 14.5. A waiver of any right, power or remedy under this Covenant must be in writing signed by the Party granting it. A waiver only affects the particular obligation or breach for which it is given. It is not an implied waiver of any other obligation or breach or an implied waiver of that obligation or breach on any other occasion.
- 14.6. The fact that a Party fails to do, or delays in doing, something the party is entitled to do under this Covenant does not amount to a waiver.

Execution and date

Executed as a deed.

Date: 3 April 2023

Signed, sealed and delivered by Crichton Properties Pty Ltd [ACN 611 477 359] in accordance with section 127 of the *Corporations Act 2001* (Cth) by;

  
.....  
Signature of sole director/company secretary

CHARLES ANDREW CRICHTON CAMERON  
.....  
Name of sole director/company secretary

The common seal of **Trust for Nature (Victoria)**  
was hereunto affixed by the authority of the  
Trustees in the presence of:

.....  
Signature of Trustee

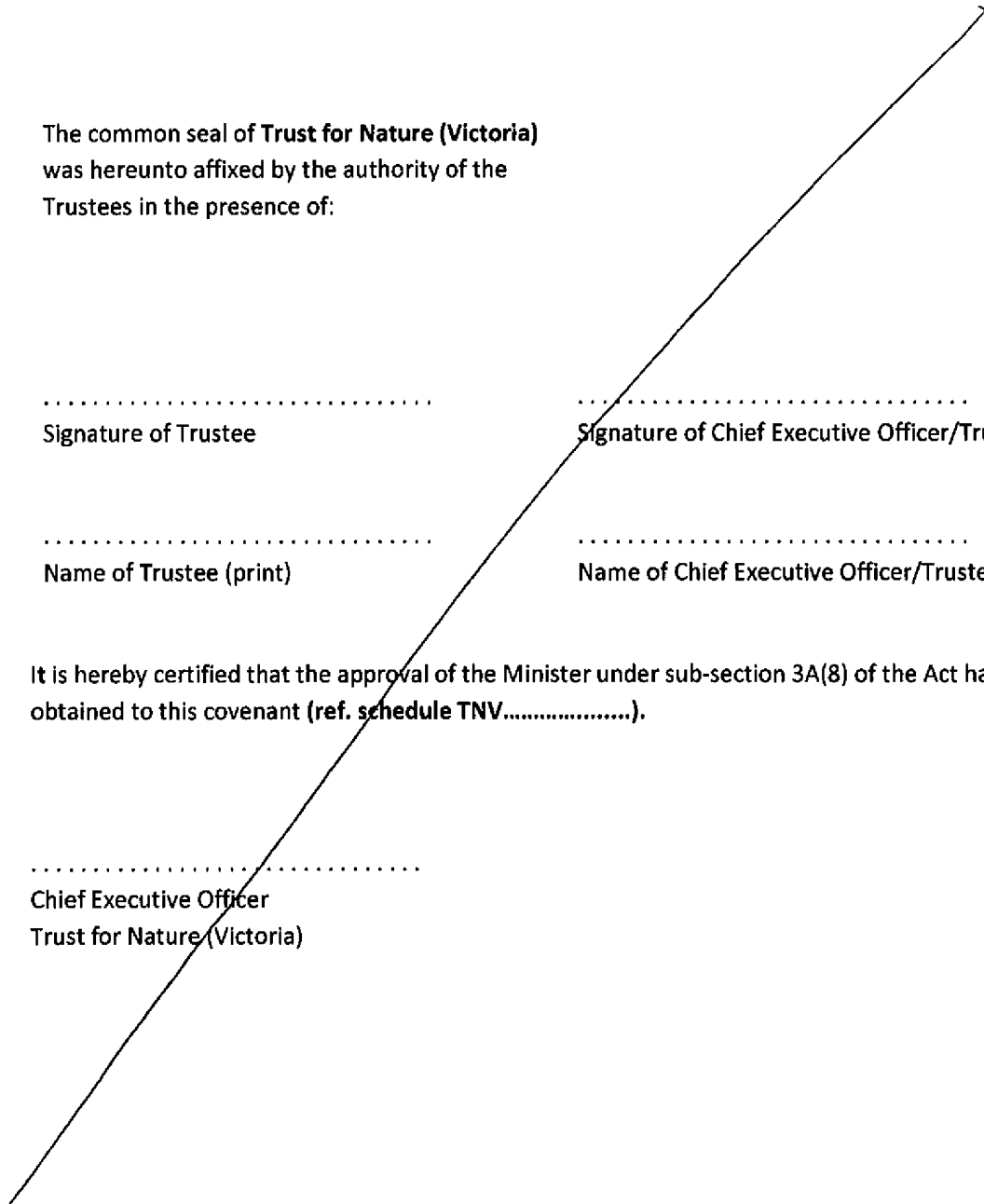
.....  
Signature of Chief Executive Officer/Trustee

.....  
Name of Trustee (print)

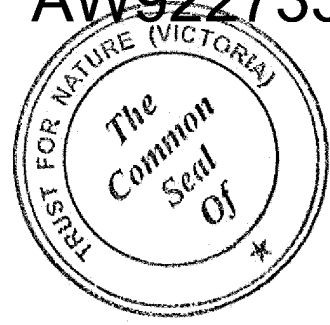
.....  
Name of Chief Executive Officer/Trustee (print)

It is hereby certified that the approval of the Minister under sub-section 3A(8) of the Act has been  
obtained to this covenant (ref. schedule TNV.....).

.....  
Chief Executive Officer  
Trust for Nature (Victoria)



AW922733A



The common seal of **Trust for Nature (Victoria)** was hereunto affixed by the authority of the Trustees in the presence of:

*[Handwritten signature]*

Signature of Trustee

*[Handwritten signature]*

Signature of Chief Executive Officer/Trustee

*ANDREW DEAKIN BROOKS*

Name of Trustee (print)

*Corinne Proske*

Name of Chief Executive Officer/Trustee (print)

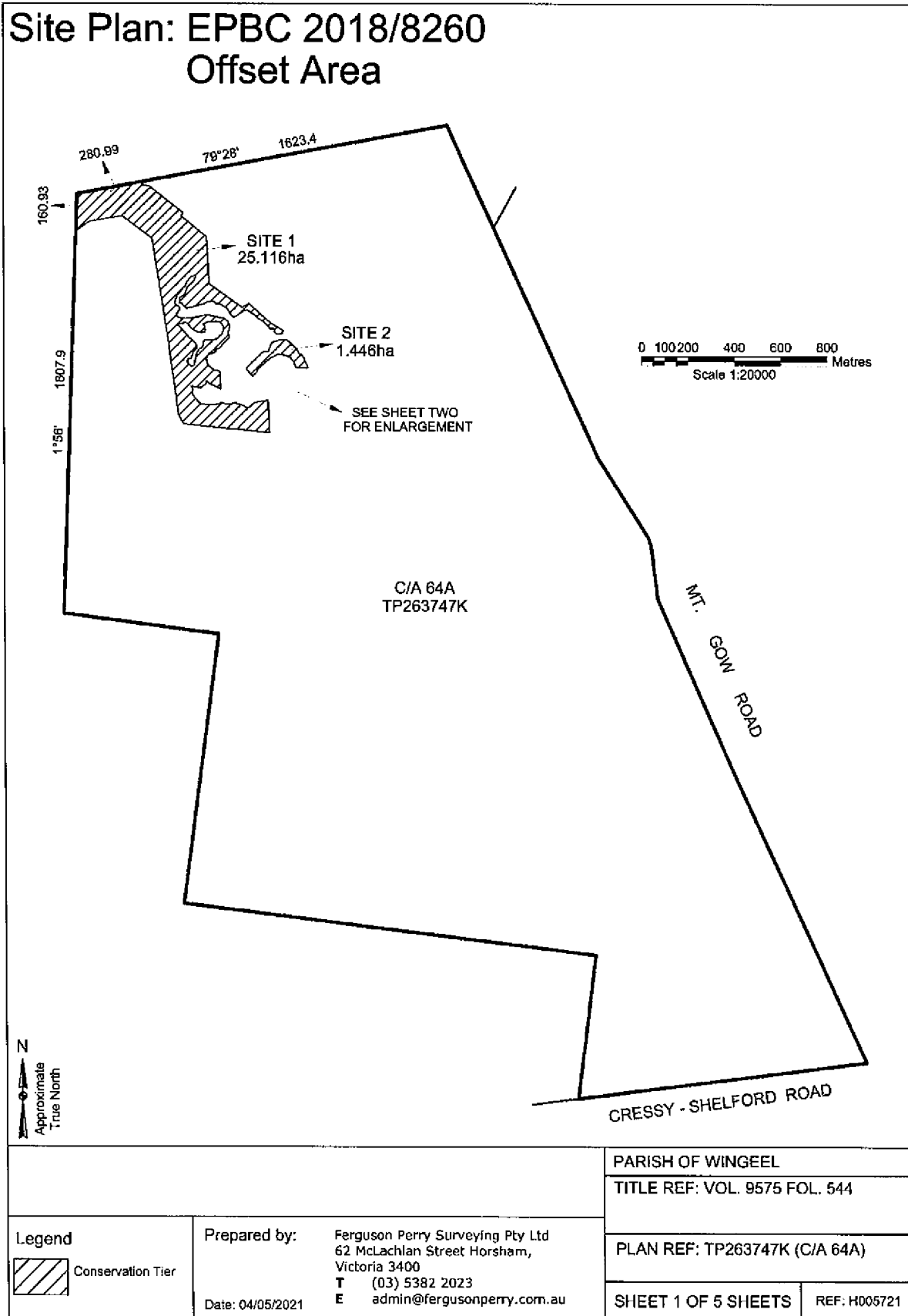
It is hereby certified that the approval of the Minister under sub-section 3A(8) of the Act has been obtained to this covenant (ref. schedule TNV. ~~220-1733~~)

*[Handwritten signature]*

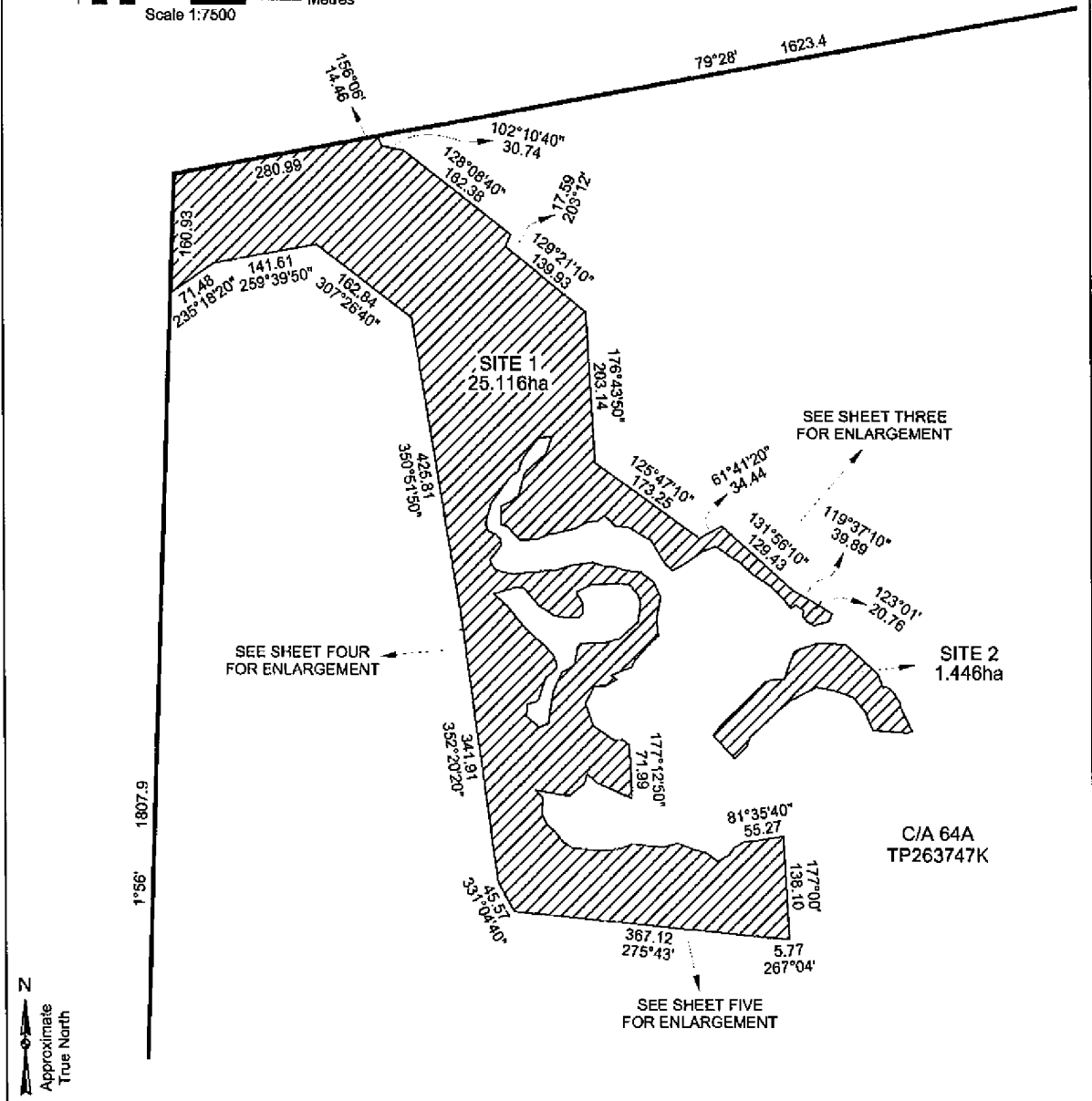
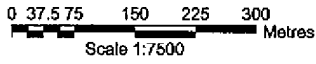
Chief Executive Officer  
Trust for Nature (Victoria)



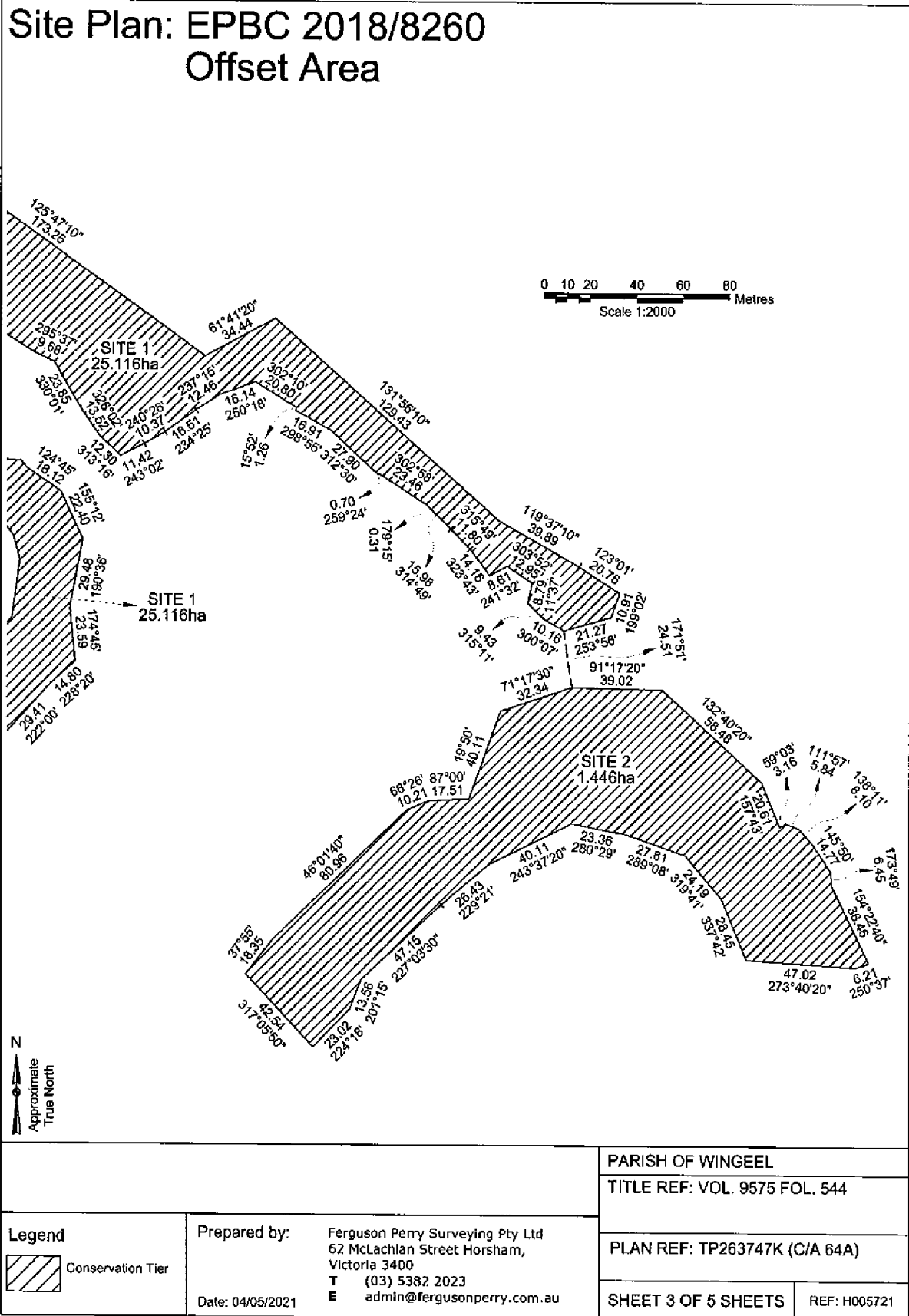
SCHEDULE 1: LAND



# Site Plan: EPBC 2018/8260 Offset Area




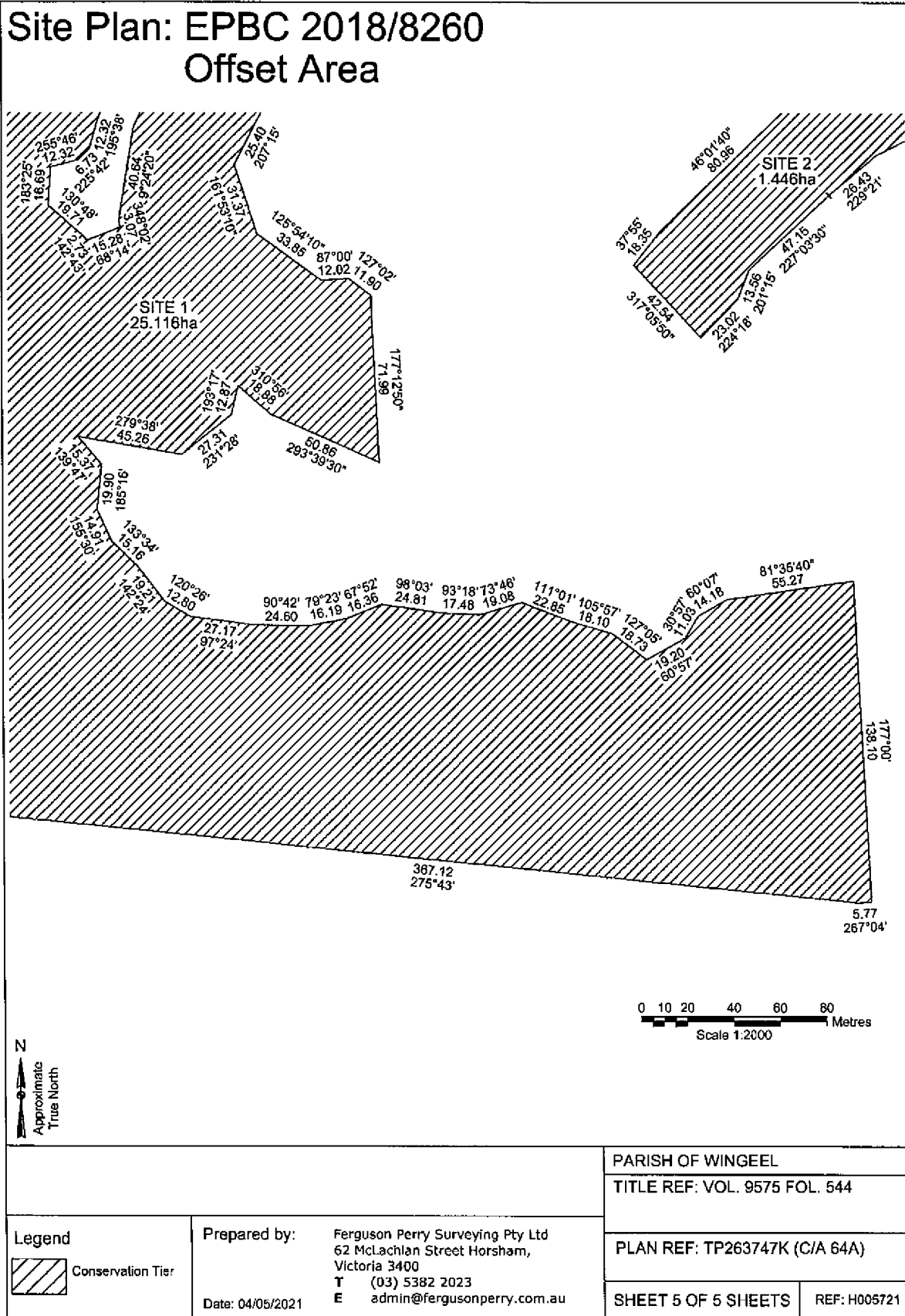
		PARISH OF WINGEEL	
		TITLE REF: VOL. 9575 FOL. 544	
<b>Legend</b> Conservation Tier	<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au	PLAN REF: TP263747K (C/A 64A)	
		SHEET 2 OF 5 SHEETS	REF: H005721



# Site Plan: EPBC 2018/8260 Offset Area



<b>Legend</b>  Conservation Tier	<b>Prepared by:</b> Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400 <b>T</b> (03) 5382 2023 <b>E</b> admin@fergusonperry.com.au Date: 04/05/2021	<b>PARISH OF WINGEEL</b>	
		<b>TITLE REF: VOL. 9575 FOL. 544</b>	
		<b>PLAN REF: TP263747K (C/A 64A)</b>	
		<b>SHEET 4 OF 5 SHEETS</b>	<b>REF: H005721</b>



AW922733A

**SCHEDULE 2: OFFSET MANAGEMENT PLAN**

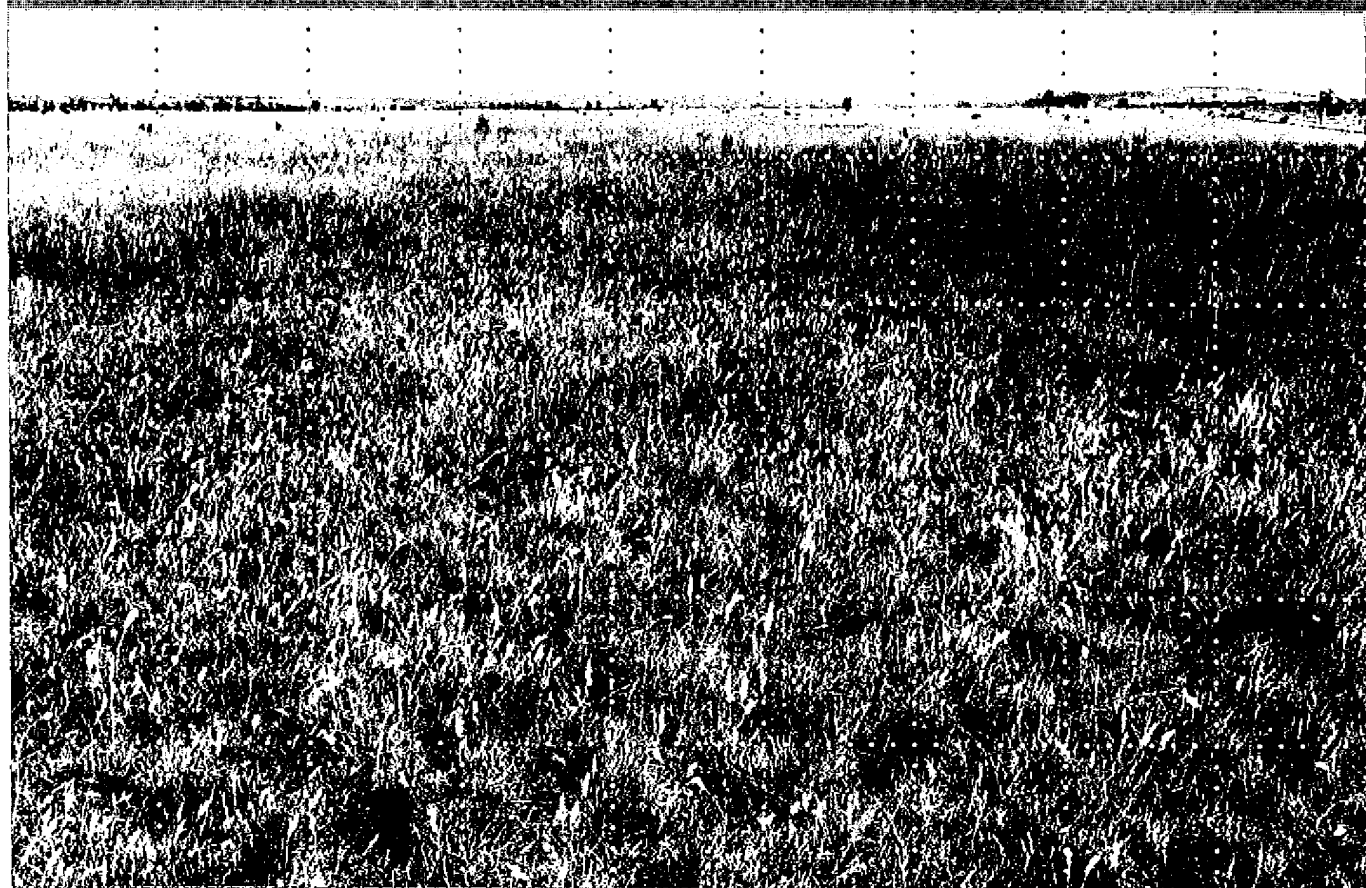
AW922733A



# Offset Management Plan: Mount Gow, Shelford, Victoria (EPBC 2018/8260)

CH2M Beca (on behalf of Western Water)

February 2021



**Ecology and Heritage Partners Pty Ltd**



## DOCUMENT CONTROL

<b>Assessment</b>	EPBC 2018/8260: Offset Management Plan
<b>Address</b>	Mount Gow, Shelford, Victoria
<b>Project number</b>	10223
<b>Project manager</b>	Claire Ranyard (Senior Botanist)
<b>Report reviewer</b>	Aaron Organ (Director – Principal Ecologist)
<b>Mapping</b>	Dr Monique Elsley (GIS Coordinator)
<b>File name</b>	10223_EHP_Parwan-Melton-Pipeline_OMP_Final_09022021
<b>Client</b>	CH2M Beca (on behalf of Western Water)
<b>Bioregion</b>	Victorian Volcanic Plain
<b>CMA</b>	Corangamite
<b>Council</b>	Golden Plains Shire

Version	Comments	Comments updated	Date Submitted
Draft 01	Submitted to DAWE	-	30/10/2019
Draft 02	Addressed first round of comments from DAWE	AF	28/02/2020
Draft 03	Addressed second round of comments from DAWE	CR	12/05/2020
Draft 04	Addressed third round of comments from DAWE	CR	28/05/2020
Draft 05	Addressed fourth round of comments from DAWE	CR	20/07/2020
Final	Removed 3.45 NTGVVP offset from OMP	CR	09/02/2021

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## GLOSSARY

Acronym	Description
Approval holder	means the persons to whom the approval is granted, or to whom the approval is transferred under section 145B of the EPBC Act (persons taking the action).
CaLP	<i>Catchment and Land Protection Act 1994</i>
CMA	Catchment Management Authority
DELWP	Victorian Department of Environment, Land, Water and Planning
DEWHA	(former) Commonwealth Department of Environment, Water, Heritage and the Arts
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DSEWPaC	(former) Commonwealth Department of Sustainability, Environment, Water Population and Communities.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
GSM	Golden Sun Moth
NES	National Environmental Significance
NTGVVP	Natural Temperate Grassland of the Victorian Volcanic Plain
OMP	Offset Management Plan
TfN	Trust for Nature



www.ehpartners.com.au

## DECLARATION OF ACCURACY

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I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying this Management Plan (EPBC 2018/8260: Offset Management Plan: Parwan to Melton Pipeline, Victoria) is complete, current and correct.
2. I am duly authorised to sign this declaration on behalf of the approval holder.
3. I am aware that:
  - a. Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.
  - b. Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) where the person knows the information or document is false or misleading.
  - c. The above offences are punishable on conviction by imprisonment, a fine or both.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Full name (please print)

\_\_\_\_\_  
Organisation (please print)

\_\_\_\_\_  
Date

## EXECUTIVE SUMMARY

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### Introduction

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed recycled water pipeline, Parwan to Melton, Victoria (EPBC 2018/8260).

The intention of this OMP is to detail the offset strategy to mitigate the loss of 5.26 hectares of Golden Sun Moth *Synemon plana* (GSM) habitat at the development site. This is achieved by outlining management actions for the protection of 26.5 hectares of GSM habitat at a site located at Mount Gow, Victoria. This OMP has been written in consultation with the landowner of the offset site ( [REDACTED] ) and is intended to be implemented by the landowner (Note: Landowner name removed from document during public comment period to protect privacy).

The proposed GSM offsets outlined within this OMP comprise a parcel/s of land and not the entire Mount Gow property. This will be managed concurrently with the area covered by this management plan.

### Proposed Offset Site

A large portion of the proposed offset area within the Mount Gow property contains patches of high-quality Plains Grassland, with the remaining areas of lesser quality due to a higher exotic grass cover. The offset site contains known habitat for GSM and patches of high-quality Plains Grassland which meet the key criteria for listing as the nationally significant community *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP). In accordance with the *Planning and Environment Act 1987*, 26.5 hectares of GSM habitat will be protected on-title through a Section 173 Agreement as an interim mechanism, and secured via a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* within 24 months post approval.

### Management Actions

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat, through the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context. The landholder will adopt an adaptive management approach to allow flexibility to respond appropriately and effectively to uncertainties involved in ecological processes. This will ensure that management objectives are being met while allowing for altered circumstances to be included in the management of the offset site.

Any proposed changes to the management actions for the offset site contrary to those specified within this plan must be approved by the Commonwealth Department of Agriculture, Water and Environment (DAWE) prior to implementation. Any proposed uses or development of the offset site which conflict with the landowners' commitments or maintenance/improvement of the community are not permitted under this plan.



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## 1 INTRODUCTION

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### 1.1 Background

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed development for the Parwan to Melton Pipeline, Victoria (EPBC 2018/8260).

A referral for the action was submitted for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2018/8260). The referral will be assessed under Preliminary Documentation, which requires the proponent to prepare and implement an Offset Management Plan to compensate for the removal of Golden Sun Moth (GSM) habitat.

The intention of this OMP is to detail the ongoing management actions required to protect 26.5 hectares of GSM habitat at a third-party offset site located at Mount Gow, Shelford, Victoria, in order to offset the proposed impacts. The OMP has been written in consultation with the landowner of the Mount Gow offset site (██████████) and management will be implemented by the landowner.

The OMP is both strategic and focused on management actions and performance measures (quantitative amounts indicated, where appropriate) in order to address management issues and key threats across the offset site.

## 2 OBJECTIVES AND CONTEXT OF THE PROJECT

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### 2.1 Impact Site

The impact site (study area) for the proposed Parwan to Melton recycled water pipeline is located mostly within private property south of Nerowie Road and is bounded by Parwan South Road (west) and Butlers Road, approximately 60 kilometres north west of Melbourne's CBD. The impact site is long and linear and comprises the road reserve of Nerowie Road and intersects Bucklers Road, Green Hill Road, and Eynesbury Road in Eynesbury (from west-east).

At the time that the EPBC referral (2018/8260) was lodged in August 2018, two alignments were considered: a preferred and alternative alignment. The confirmed study area is the preferred (or southern) alignment, which is approximately 13 kilometres long, with a construction footprint of 35 hectares. The study area is comprised of road reserves and agricultural land used mostly for grazing and some cropping, which is generally flat until it intersects the Werribee River. Patches of native vegetation identified along the length of the pipeline are interspersed with Chilean Needle-grass *Nasella neesiana*, a preferred food plant of the GSM.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool (DELWP 2020a), the study area occurs within the Victorian Volcanic Plain bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and transects between the Melton Shire Council and Moorabool Shire Council municipalities. Relevant Melton Planning Scheme overlays which apply to the study area are the Design and Development Overlay – Schedule 2 (DDO2), Environmental Significance Overlay – Schedule 1 (ESO1) and 4 (ESO4). The Green Wedge Zone (GWZ) also applies to the study area.

The proposed action at the impact site will have a direct impact on 10.357 hectares of Golden Sun Moth habitat and 4.961 hectares of NTGVVP. The objectives of this OMP are to offset the loss of Golden Sun Moth habitat. Golden Sun Moth is listed as Critically Endangered under the EPBC Act.

### 2.2 Offset Site

#### 2.2.1 Description of the Offset Site

The third-party offset site (offset site) is located at a private property in Mount Gow, Shelford, Victoria, approximately 63 aerial kilometres south-west of the impact site in Parwan, Victoria (Appendix 3). The offset site will protect 26.5 hectares of GSM habitat and is part of a larger property intersected by Warrambine Creek and abutting 35 kilometres of Mount Gow Road. All identified GSM habitat within the property is proposed to be managed for offset and conservation purposes.

The property contains a northern and southern area which contain patches of NTGVVP and GSM habitat and were initially mapped in 2015 by AECOM, with the remaining areas comprised of moderate quality Plains Grassland interspersed with introduced vegetation (AECOM 2015). The current extent of NTGVVP and GSM habitat was verified in January and February 2020 and during the 2019/20 flying season, respectively (Ecology and Heritage Partners 2020a, Appendix 3). GSM were recorded in the northern half of the offset area, with numbers having increased substantially since the AECOM 2015/16 surveys, with 50+ GSM recorded in the 2019/20 survey season and only five recorded in the 2015/16 season.



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The GSM habitat outlined in this OMP will be protected on-title through a Section 173 Agreement under the *Planning and Environment Act 1987* as an interim mechanism, and a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* in perpetuity for the area covered by this OMP, with the management actions specified within the Section 173 Agreement alike to those specified within this OMP specific to GSM. The offset site selected is part of a larger patch intersected by Warrambine Creek in the northern area, which comprises the required 26.5 hectares of GSM habitat (Ecology and Heritage Partners 2020a, Appendix 3).

According to the Department of Environment, Water, Land and Planning (DEWLP) Native Vegetation Information Management Tool (NVIM) (DEWLP 2020), the offset site occurs within the Victorian Volcanic Plain Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Golden Plains Shire municipality.

### 2.2.2 Tenure Arrangements

The proposed offset site is privately owned by [REDACTED] and is currently in the process of being protected through a Section 173 Agreement under the *Planning and Environment Act 1987*. Further, the offset site will be protected via a Trust for Nature conservation covenant within 24 months of the EPBC Act referral (2018/8260) approval being granted. Once the Trust for Nature Covenant is secured on title, it is proposed that the Section 173 Agreement will be removed.

### 2.2.3 Environmental Condition and Values

The offset site contains a population of GSM, which reside within the areas of NTGVVP and the surrounding patches of Plains Grassland. This OMP will focus on the protection of one matter of NES relevant to the proposed action (GSM).

### 3 RISK ASSESSMENT

An assessment of potential risks associated with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.

**Table 1.** Risk assessment and management table for specific offset site for GSM (Appendix 1).

Management objectives/outcome	Event or circumstance	Relevant Management Objectives	Condition	Trigger detection and monitoring activity/ies	Possible/Ineffective corrective actions	Notes
To legally secure approved offset properties for conservation.	Failure to legally secure approved offset site	Engage with expert offset brokers	Unlikely	n/a	Engage a consultant	Low risk: the site is currently in the process of being secured with an on-title agreement (Section 173 Agreement). Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
	Legislative reform prejudices proposed tenure arrangements for offset properties.	Monitor DAWE, DEWLP LGAs and other legislative bodies on developments to offsets	Moderate	Newsletters, expert liaison, press releases and direct contact.	Adjust offset calculations accordingly.	
			Low			
			High			
			Rare			





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Event or Circumstance	Residual Risk		Trigger detection and monitoring activity/ies	Possible/Effective corrective actions	Notes
	L	R			
<p>To achieve performance targets and completion criteria for all MNES</p> <p>Landowner-proponent agreements fail to adequately address management commitments in the offset plan</p>	Unlikely	High	Quality assurance and monitoring	Revise on-title and/or proponent agreements.	The site will be protected through a Section 173 Agreement. The Section 173 Agreement will be placed on-title and therefore undergo a further review by the Titles Office. Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
<p>To achieve performance targets and completion criteria for all MNES</p> <p>Adjacent/regional landowner's land management practices fail to support attainment of offset outcomes.</p>	Unlikely	High	Adjacent land practices begin to negatively impact offset site.	Take steps to halt negative impacts. Follow up with stakeholder discussions	The adjacent land parcels contain agricultural land (grazing and/or cropping). Based on the current land management practices in the region and it is unlikely that any foreseeable land management practices within the vicinity will impact the offset site.
<p>Insufficient funds provided by proponent to implement the plan.</p>	Unlikely	High	Monitoring and/or annual reporting	Review plan for cost efficiencies.	The offset funds provided by the proponent will be deposited to the land holder. The landholder



Management Objectives/Outcomes	Event/ Circumstance	Relevant Management Objectives/Outcomes	Residual Risk	Trigger detection and monitoring activities	Feasible/Effective corrective actions	Notes
To achieve performance targets and completion criteria for all MNES	Stochastic events (wildfire/drought/flood) prejudice attainment of interim performance targets and/or completion criteria for MNES.	Ensure appropriate biomass management. Plan for scheduling delays.	High Possible	Monitoring and/or annual reporting	Apply adaptive management to ensure the objectives of the OMP are not compromised.	
	Approved development on/near project/offset prejudicing plan outcomes	Ensure proper stakeholder engagement to prevent poor outcomes.	High Unlikely	Advertisement of planning scheme amendments/planning permit applications	Objection to proposed development/laisse with proponent to ensure the proposed development does not compromise the objectives of the OMP.	The offset site is within a semi-rural agricultural landscape, as such, there is a low likelihood of development within adjacent properties. The ecological values within the offset site do not rely on habitat values within adjacent land.
Drought			Moderate Likely	Drought Event		The offset site sits within 125 hectares of similar quality grassland within the property and is contiguous with native vegetation along Stony Creek and Warrambine Creek in neighbouring properties. The offset site and adjacent areas
Wildfire		Apply adaptive management to ensure the site is not over-grazed	Moderate Likely	Wildfire Event	Apply adaptive management to ensure the site is not over-grazed	

Management objectives/desired outcome	Event or circumstance	Relevant management activities	Residual Risk	Trigger detection and monitoring activities	Possible/Ineffective corrective actions	Notes
			L C RR			
GSM habitat improved	Uncontrolled grazing	Maintain fences and install temporary fencing, if required (Section 5.5.3.1) Exclude stock during (October-November) (see Section 5.5.6 for further information on exclusion period) Undertake pulse grazing (Section 5.5.6.2)	Highly Likely Moderate Unlikely	Continual monitoring	Repair permanent fences, and/or install temporary exclusion fences.	have been historically subject to frequent drought and occasional wildfire. As such, the GSM population is likely to survive such an event.  The strategic grazing regimes specified within this plan aim to shift species dominance to favour native species abundance and diversity, improving the ecological condition and habitat. Further, strategic grazing strategies will improve and maintain recruitment space required for native plants to establish, further improving species diversity over time.
	High biomass levels preventing establishment of native herbs (see Section 5.5.6.4 for performance indicators)	Grazing excluded between October-November annually, in perpetuity (Section 5.5.6.2)	Highly Likely Moderate Possible	Annual monitoring	Apply pulse grazing in appropriate season to reduce biomass levels (Section 5.5.6.2)	
	Loss of biodiversity due to competition with weeds (see	Spot spraying of weeds (Section 5.5.4.2)	Likely Moderate Possible	Annual monitoring	Undertake weed control activities (Section 5.5.4.2)	The Offset Management Plan includes actions to reduce weed cover, improving the ecological





## 4 UNAVOIDABLE LOSS AND OFFSET OBLIGATIONS

### 4.1 Unavoidable Loss

The proposed development at the impact site (Parwan to Melton Pipeline) will result in the removal of the following Matters of National Environmental Significance (NES):

- 10.357 hectares of Golden Sun Moth;
- 4.961 hectares of *Natural Temperate Grassland of the Victorian Volcanic Plain*, and;
- 0.266 hectares of Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia

### 4.2 Offset obligations, user inputs and applying the offset guide

#### 4.2.1 Golden Sun Moth

Based on the EPBC Act offset calculator (DSEWPaC 2012b), the protection and management of 26.5 hectares of GSM habitat, with the proposed offset site as an offset, mitigates 100.19% of the impact to remove 5.26 hectares of GSM habitat (Table 2; Appendix 2). As such, 100% of the offset requirements will be met through direct offsets and are considered to be in accordance with the Commonwealth environmental offset policy (DSEWPaC 2012a).

**Table 2** EPBC Act Offset Calculator (Golden Sun Moth) for Mount Gow Offset site

Offset Benefit	Offset Value
<b>Impact Site</b>	
<b>Impact Location</b>	Parwan to Melton Pipeline: south of Nerowie Road, Parwan, VIC
<b>Habitat to be removed</b>	5.26 hectares of Golden Sun Moth habitat (GSM)
<b>Habitat quality</b>	5/10. A total of 991 moths were recorded during the 2016/17 flight season. However, the majority of moths were recorded along the alternative alignment, which will no longer be impacted. The GSM habitat within the impact area is also dominated by Chilean Needle-grass <i>Nassella neesiana</i> , which is a noxious weed. Therefore, the habitat quality at the impact area is of moderate quality (DSEWPaC 2012b).
<b>Offset Site</b>	
<b>Offset location</b>	Mount Gow, Victoria
<b>Risk-related time horizon</b>	20 years. The land will be managed in perpetuity for conservation purposes for Golden Sun Moth.
<b>Time until ecological benefit</b>	10 years. The existing habitat condition is expected to be improved over the 10-year active management schedule detailed in the Offset Management Plan.



**Offset Criteria      Response**

**Start area and quality of offset site**

26.5 hectares in total, of this 20.5 hectares has an assigned start quality of 5/10. This area is located in the northern half of the offset site, where a higher number of GSM were recorded, and a lower cover of exotic grass was present. Within the 20.5-hectare area includes 3.45 hectares of NTGVVP.

The remaining six hectares has a start quality of 4/10, due to the higher cover of exotic grass and lower number of GSM recorded.

The offset site was assessed by AECOM during the GSM flight season 2014/15 (AECOM 2015) and again by Ecology and Heritage Partners in the 2019/2020 flight season (Appendix 3). The GSM habitat surveyed previously was of low-moderate quality, with four moths recorded at Warrambine Creek and one moth recorded along Mount Gow Road during the 2014/15 flight season (AECOM 2015). In 2019, GSM abundance had increased to 50+ individuals in the northern area and GSM habitat is considered to be of moderate quality (Ecology and Heritage Partners 2020a). The patch of GSM habitat selected for the offset site is located in the northern area along Warrambine Creek and the habitat quality is based on (DSEWPac 2012b):

- Site condition: 4-5/10. The site supports a diversity of native grasses, including key grass species associated with Golden Sun Moth (Wallaby-grass *Rytidosperma* spp., Spear-grass *Austrastipa* spp.) with at least 25% cover of native grass; The starting site condition was assessed through a Vegetation Quality Assessment (VQA) using the habitat hectare assessment method. The key areas which contribute to these scores are understory diversity, weed cover and recruitment. The VQA score for site condition of the moderate quality areas was 26/75, with an understory score of 10/25, weed score of 2/15 and recruitment score of 3/10. Whilst the understory did have a number of lifeforms present, the diversity and cover of species within each lifeform was lower than the EVC benchmark diversity and cover. Further, the presence of exotic grasses, primarily Toowoomba Canary-grass, negatively impacted both the weed and recruitment score.
- Site context: 8/10. Based on a review of aerial photography, predictive mapping of native vegetation extent, and knowledge of Golden Sun Moth populations and habitat in the region, the site is likely to form part of a larger habitat corridor which follows Warrambine Creek, where a population of over 100 has been recorded north of the current proposed offset site (EPBC 2018/8167). The Victorian Biodiversity Atlas has multiple records of Golden Sun Moth scattered within 10-kilometres of the study area, indicating that other suitable habitat exists within the broader region, and the population within the offset site is not an isolated population. Threats that occur to the population within and adjacent to the offset site include the loss of suitable habitat through land clearance (cropping) or disturbance (heavy grazing/slashing).
- Species 'stocking rate' (population density): 4/10. A small population of Golden Sun Moth was initially recorded within the offset site (+4 individuals) (AECOM 2015). The recent 2019 surveys recorded higher numbers of GSM within the proposed offset area (Ecology and Heritage Partners 2020a, Appendix 3), with 50+ individuals recorded (Figure 1) which has increased the species stocking rate from a median 3/10 (AECOM 2015) to 4/10.

The habitat at the offset site is of moderate quality for GSM. This is due to a native vegetation cover of at least 20% including key food resources (Wallaby-grass, Spear-grass) present within the offset area. The habitat is not considered of high quality, due to the relatively high cover of Phalaris (between 25-40% in NTGVVP patches where GSM are recorded), which is not a key food plant for GSM and therefore reduces the quality of the available habitat at the offset site. The definition of suitable GSM habitat has been based on information provided in the species conservation advice and related documents (i.e. SPRAT (DoE 2019), Approved Conservation Advice (DAWE 2013)). The combination of habitat factors presented has resulted in the starting quality of GSM habitat being



Offset areas	Response
	<p>assessed at 5/10 for the northern 20 hectares, and 4/10 for a six hectare area directly below the 20.5 hectare patch.</p>
<p><b>Risk of loss without offset</b></p>	<p>5%. There are currently no formal protection mechanisms that protect the ecological values present within the offset site. Without protection and ongoing management as an offset site, there is a degree of uncertainty regarding the future condition of the land.</p> <p>As the broader offset property is zoned Farming Zone (FZ), there is a risk that the Golden Sun Moth will be lost by intensified agricultural use (e.g. cropping or intensified grazing). Inappropriate grazing regimes by hard-hooved livestock at higher stocking densities will result in compaction of the soil, which negatively impacts Golden Sun Moth. Intensive agricultural activities such as ploughing, sowing pasture grasses, fertiliser application and/or tilling the soil is likely to result in complete loss of the Golden Sun Moth population. The risk posed by intensification of agricultural use is evidenced by cropping activities in properties surrounding the offset site, which are not adjacent to Warrambine Creek. A protective covenant provides legal protection, averting this risk of losing the Golden Sun Moth community within the site.</p>
<p><b>Future quality without offset</b></p>	<p>3-4/10. Without protection as an offset site there is uncertainty regarding the future condition of the land. Without increased management as an offset, a reduction in quality over time is likely due to continued pest and weed encroachment from adjoining properties, as well as perennial weeds that exist elsewhere within the broader property, as well as a lack of land management, including biomass management resulting in a reduction in species diversity.</p> <p>Relatively small areas within the site have a high cover (40%) of the weed Phalaris, which is a fast-growing species that can quickly outcompete native grass species such as Wallaby-grass and Spear-grass. Without increased management, this weed is likely to displace plants that constitute important food resources for the Golden Sun Moth.</p> <p>Without strategically designed grazing strategies, stock can overgraze/undergraze Golden Sun Moth habitat, leading to a shift in introduced species dominance and/or, soil compaction, which reduces the viability of the offset site to support Golden Sun Moth.</p> <p>Rabbits were recorded within and nearby the offset site. Without increased management, rabbits are likely to prevent the recruitment of host plants, leading to a decline in the Golden Sun Moth community.</p>
<p><b>Risk of loss with offset</b></p>	<p>1%. There is a 1% chance that the GSM population will be lost with the offset being protected and managed in accordance with the OMP placed on-title. There is a low level of risk given the evidence of recent voluntary conservation works (weed control targeting GSM known habitat) within the site, these works have proved to be successful, demonstrating the landholder's capability in managing threats. Further, the availability of GSM habitat adjacent to the offset site further consolidates habitat within the property.</p>
<p><b>Future quality with offset</b></p>	<p>6/10. There is a high level of confidence that the future quality of the Golden Sun Moth offset site within both quality patches will increase through the active implementation of the various actions outlined in the Offset Management Plan. there is a high likelihood that the management actions provided in the Offset Management Plan will lead to an increase in the species' habitat quality, site occupancy and population size. The management actions outlined in this Plan are well known and proven, and therefore there is a high likelihood that the quality of the habitat will improve in the future (DEWHA 2009a, 2009b).</p> <p>The smaller six- hectare patch is believed to be able to achieve a two-point increase, due to the connectivity to the surrounding areas of better quality, small size and through the implementation of the management actions over the 10 year management period. Currently, the exotic vegetation</p>



**Offset Criteria      Response**

cover is estimated at up to 40% cover in the moderate quality patches of habitat (which correspond with all areas not recorded as NTGVVP within the offset area). It is expected that at the end of the 10-year management period the exotic vegetation cover will not exceed 30%. Further, this will be measured through a demonstrated increase in the VQA site condition score, primarily in the areas of moderate quality Golden Sun Moth habitat. This area currently contains a higher biomass and weed cover, resulting in a recruitment score of 3/10 and a weed score of 2/15, as detailed in the site assessment report (Ecology and Heritage Partners 2020a). It is expected that at the end of the 10-year management of the site, the weed score will have improved to at least a 6/15, and the recruitment score to a 6/10. The weed and recruitment score will improve through the management of exotic grasses, where biomass will be monitored to ensure adequate inter-tussock spacing, and targeted control of Toowoomba Canary-grass will be undertaken. The targeted control of Toowoomba Canary-grass will provide opportunity for native grass and herb recruitment, increasing the cover of native species and ultimately improving the understory score to a minimum of 15/25. Further detailed on weed control actions are detailed in Section 5.5.4.

Due to the commitment of the current landowner and investment in the active management of the site these factors provide a high level of confidence that the future quality of the offset will increase (i.e. a score of six is realistic). This is supported by the increase in GSM stocking density since 2015 (AECOM), where recent surveys (2019 flying season) recorded 50+ GSM flying at the northern area of the proposed offset site. Previously, AECOM (2015) recorded <5 GSM at the same location. This suggests that current management practices (e.g. slashing phalaris) have been successful in improving habitat and providing inter-tussock space for Golden Sun Moth. Further, management actions and targets as detailed in this OMP will achieve the end result of the entire 26.5 hectare area being of similar high quality for GSM. Management actions within the six-hectare area will be focused on reducing the cover of Toowoomba Canary-grass and improving the cover and abundance of key native habitat plants for GSM, primarily Wallaby-grass and Spear-grass. The presence of Toowoomba Canary-grass was the driving factor in the reduction in quality, with other key threats, such as change in land use, soil compaction, additional weed invasion and inappropriate fire regimes all managed within this OMP. Given that Toowoomba Canary-grass is the main item causing a reduction in habitat quality for GSM, it is the belief that this six hectare area will be improved to demonstrate a two point difference between starting condition (with respect to stocking density and site condition improvement) and future condition over the course of the 10 year management plan.

The offset site is to be secured and managed for conservation purposes in perpetuity, with implementation of a management plan incorporating weed control, biomass control and regular monitoring, aiming to enhance native biodiversity.

The species was previously observed in grassland areas with at least 20% native grass cover (wallaby-grass *Rytidosperma* spp., spear-grass *Austrostipa* spp.) and weed management is necessary to ensure that native grass cover is maintained.

Appropriate livestock grazing management is necessary to ensure that soil compaction is minimised and native grasses are not overgrazed. Low density grazing can be beneficial for maintaining GSM habitat.

Pest management is required to ensure rabbit populations are managed and numbers are reduced to prevent over-grazing.

**Confidence in result**

80-90%. Confidence in applied scores is relatively high due to careful consideration of the offset site, existing condition and evidence of the landholder's capability to manage threats through recent conservation works. The site will be protected through a Section 173 Agreement under the *Planning and Environment Act 1987* with Council. Council undertakes a quality assurance process





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Commitment	Response
<p><b>% of impact offset off-site</b></p>	<p>for all offset sites to ensure the landowner agreements address the management commitments in the plan.</p> <p>Further, the site will be secured via a Trust for Nature covenant under the <i>Victorian Conservation Trust Act 1972</i> within 24 months post approval of the referral.</p> <p>20.5 hectare high quality area: 73.60%</p> <p>Six hectare moderate quality area: 26.59%</p> <p>Total: 100.19%</p>



## 5 OFFSET IMPLEMENTATION

### 5.1 Management Objectives and Strategy

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat, the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context.

The offset site will be protected in perpetuity via a Section 173 Agreement (Table 4) and a Trust for Nature Covenant. The Section 173 agreement will be an interim mechanism until the Trust for nature covenant is placed on title (within 24 months of the EPBC Act approval for the project). This OMP will be attached to the on-title agreement and require the landowner to manage the offset site in accordance with the requirements detailed herein. Security, management and monitoring responsibilities are summarised in Table 5. This OMP relates solely to the 26.5 hectares of GSM habitat and includes actions related to the ongoing monitoring and management of the ecological communities.

**Table 4.** Security and Management Responsibility

Offset Security and Management Responsibility	Parwan to Melton Pipeline
Who is liable/responsible for meeting offset requirements?	Western Water
Type of security mechanism	Interim: Section 173 agreement Future: Trust for Nature Covenant
Agreement or Planning Permit Number (ID)	TBC/2020 EPBC 2018/8260
Date 10-year offset management to commence	Upon approval of this OMP by DAWE
Date 10-year offset management expires	10 years following approval of this OMP by DAWE
Offset site management responsibility (i.e. Landowner, Authority Name)	[REDACTED]
Offset Monitoring Responsibility (i.e. Responsible Authority)	Landowner, Western Water, DAWE, TfN

### 5.2 Compliance with Offset Principles

The ‘*Environmental Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy’ (DSEWPaC 2012a) outlines a set of principles that a proposed offset must meet in order to be assessed under the referral process. These principles are detailed in Section 7 of the Preliminary Documentation (Ecology and Heritage Partners 2020b), along with how the proposed offset site meets these requirements.

### 5.3 Offset Targets

The EPBC Act offsets policy (DSEWPaC 2012a) provides the details of the offsetting approach for Matters of NES; this includes an Offset Assessment Guide and offset calculator.



The Offset Assessment Guide offset calculator has been completed to determine the area of offset required to adequately compensate for the removal of GSM habitat at the development site. The Offset Assessment Guide offset calculator is provided in Appendix 2, and a justification for the scores given in Section 4.2.

## 5.4 Ongoing Land-use Commitments

The offset site will be managed to ensure the quality of remnant native vegetation and habitat for Matters of NES is improved 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.

From the commencement of the agreement, the Landowner agrees to undertake the following long-term (ongoing) management commitments in perpetuity for the 26.5 hectares of GSM habitat:

- Retain and manage all native vegetation as directed by this OMP;
- Exclude domestic stock, except as permitted by this OMP;
- Eliminate all woody weeds < 1 % cover;
- Ensure that weed cover does not increase beyond the current level;
- Monitor for any new and emerging weeds and eliminate to < 1% cover;
- Control rabbits; and,
- Undertake biomass management (grazing).

## 5.5 Management Actions

Implementation of the management actions (excluding third party monitoring) outlined within this OMP is the responsibility of the landowners (██████████), as detailed in the MoU prepared between Western Water and the landowner, however, direct management responsibility may be delegated to a designated site manager and/or managing ecologist with annual reports submitted to Council, Trust for Nature, DAWE and the Proponent (Western Water). Specific monitoring and reporting requirements are detailed in Section 8.

Management actions detailed in this OMP will commence from the date the offset site is secured on title (i.e. registration of the Section 173 Agreement). A breakdown of management actions required over the mandatory 10-year active management period is shown below (Table 10). Following the 10-year active management period, the landowner will continue to manage the offset site as specified in this plan, such that:

- By Year 10 of management, the weed cover must be reduced from levels upon inception of this plan (Section 5.5.4). Following Year 10 of this plan, the weeds within the site must be maintained at the improved state achieved at year 10, or ideally improved further;
- GSM habitat is improved through an improvement in site condition and at minimum, maintaining the current stocking rates, and;

Funding for undertaking security, management and monitoring actions prescribed in this OMP has been agreed between the landowner (██████████) and the Proponent (Western Water), in accordance with the signed Memorandum of Understanding (MoU) between both parties.



Any proposed uses or development of the offset site which conflict with the landowner's commitments are not permitted under this plan. The sensitivities of the offset site must be considered with all management actions and all contractors entering the offset site need to be made aware of its ecological values.

The management and monitoring actions detailed in this OMP have been developed in accordance with the following legislations and/or policies:

- *Environment Protection and Biodiversity Conservation Act 1999*;
- *Flora and Fauna Guarantee Act 1988 (FFG Act)*;
- *Catchment and Land Protection Act 1994 (CaLP Act)*;
- Commonwealth's Threat abatement plan for competition and land degradation by rabbits (DAWE 2016);
- Commonwealth's Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (DAWE 2017);
- Significant impact guidelines for the critically endangered Golden Sun Moth (*Synemon plana*). Department of the Environment, Water, Heritage and the Arts (DEWHA 2009a); and,
- Approved Conservation Advice for *Synemon plana* (golden sun moth). Canberra: Department of the Environment. Department of Environment (DoE 2013).

Of note, weed invasion and inappropriate grazing regimes are two of the main demonstrated threats to GSM populations due to the potential to alter habitat quality.

This OMP addresses these demonstrated threats by including management actions aimed at reducing the likelihood of weed invasion, the preparation of an appropriate grazing regime sensitive to the values that exist in the offset site and surrounds.

### 5.5.1 Golden Sun Moth

This management plan has been formulated to address several priority actions outlined within the Conservation Advice for the species (DoE 2013):

- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible;
- Retain and protect natural grassland remnants within the known distribution of the species;
- Monitor known populations to determine the species' status;
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary;
- Identify populations of high conservation priority;
- Control invasions of weeds and pasture species, and consider the impact of herbicide use in habitat; where possible use methods that directly target weeds such as spot spraying and hand removal to minimise the adverse impact on GSM;



- Re-introducing an appropriate control method where Kangaroo Grass (*Themeda* spp.) threatens to out-compete wallaby grasses in previously grazed or mown sites;
- Manage the amount of grazing to minimise any direct adverse effects on GSM or its habitat. The management regime should include some focus on grazing and fire, as combining the two in the wrong way (e.g. heavy grazing soon after a fire) is particularly damaging to perennials; and
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions

#### **5.5.1.1 Existing Threats**

The main threats to the offset site 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 that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass. High threat weeds are defined as those introduced species (including non-indigenous natives) with the ability to outcompete and substantially reduce one or more indigenous life forms in the longer terms assuming on-going current site characteristics and disturbance regime.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 1.

Maintenance and protection of the offset site will be achieved by:

- Stock-proof fencing around the boundary of the offset site;
- Weed control through active management;
  - Eliminating all woody environmental weeds to < 1% cover;
  - Reducing cover of exotic grass to <30% cover;
  - Controlling all herbaceous weeds to reduce cover;
- Biomass control through high intensity pulse grazing of domestic stock (sheep only) with stock generally excluded from 1<sup>st</sup> October to 31<sup>st</sup> January;
- Controlling pest animals, particularly rabbits and foxes; and,
- Managing native species understorey diversity and recruitment.

#### **5.5.1.2 Threats specific to Golden Sun Moth**

Table 5 below outlines the key threats to Golden Sun Moth, as identified in the Significant Impact Guidelines for the species (DEWHA 2009) and addresses the management action that will be applied to the offset site to mitigate the threat. Further details regarding each mitigation measure are provided in Section 5.5.2 to Section 5.5.7, and a table of recommended management actions for each year in Section 5.6.



**Table 5. Key threats to Golden Sun Moth**

Threat to GSM (OE/HA)	Mitigation measure
Removal of vegetation	Habitat for Golden Sun Moth within the offset site will be protected by fencing (Section 5.5.2) and will be protected through a Section 173 Agreement and a Trust for Nature Covenant. Without this protection, the site may be used for cropping purposes or cleared for other reasons.
Inappropriate fire regimes	<p>Ensure biomass is maintained at low levels to reduce fuel loads across the site (Section 5.5.5). In addition, a number of wildfires have occurred in the past at the offset site, which have not had a significant impact on Golden Sun Moth due to their current population numbers remaining high.</p> <p>The biomass level monitoring will aid in the prevention of a damaging wildfire through fuel reduction management.</p>
Weed invasion	<p>One main weed, Toowoomba Canary-grass, poses a threat of invasion and reducing the native grasses present within the offset site. Toowoomba Canary-grass, along with other key weed species including the declared noxious weed Serrated Tussock <i>Nassella neesiana</i>, will be prioritised for control, with target levels set to achieve within the 10-year management plan (Section 5.5.3). The control of Serrated Tussock will increase the area available for native grass recruitment and maintain the open tussock structure.</p> <p>Without the control of Toowoomba Canary-grass, it is likely the species would dominate the site, and reduce the habitat available to Golden Sun Moth. Therefore, efforts will be focused on reducing the cover of Toowoomba Canary-grass across the offset area, with a particular focus on the southern portion of the offset site where the six hectare area of moderate quality GSM habitat is located. This area contains a higher cover of Toowoomba Canary-grass, where reduction would see an opening in inter-tussock spaces and allow native grasses to regenerate. If it is found native grasses do not naturally regenerate, more intensive measures should be investigated, such as spreading local native grass seed into the area to boost recruitment and prevent further invasion from Toowoomba Canary-grass.</p>
Overstocking (causing loss of habitat plants, changes to soil and plant structure or increase nutrient load)	<p>Fencing will be maintained around the offset site, to ensure livestock grazing is managed within the offset site. When grazing is permitted, numbers will be monitored to ensure biomass levels and native grasses are not heavily impacted, and that the grazing does not impact upon plant structure within the offset site. If negative impacts from grazing are observed, livestock will be removed (Section 5.5.5).</p> <p>Without grazing control, the site may experience overgrazing where native species are damaged and inappropriate grazing occurs (i.e. late spring) affecting the seed distribution and regeneration of the native grassland, and ultimately reducing the amount of available Golden Sun Moth habitat.</p>
Changes to agricultural practices (e.g. ploughing, overgrazing)	<p>The offset site will be fenced and protected through a Section 173 Agreement and a Trust for Nature covenant. The landholder will commit to managing the site for conservation and will not engage in cropping within areas set aside for the offset. Grazing will be permitted with conditions, such as not during wet periods or when biomass levels are low.</p> <p>The protection of the offset site will lock the land up for conservation, which does not permit ploughing, and limits grazing. Without this protection, the site is at risk to either threat.</p>



Impacts	Mitigation measure
Rank growth (loss of inter-tussock spaces)	Loss of inter-tussock space may occur if Toowoomba Canary-grass and noxious weeds Serrated Tussock-grass is not controlled and biomass across the offset site is not managed. Management of Serrated Tussock is included in the management actions, with specific control methods and targets set for the species (5.5.3). General biomass will be managed through pulse grazing (Section 5.5.5).
Soil compaction	Soil compaction will be monitoring during and after grazing events. If soil compaction is evident, then grazing numbers will be reduced. This will be monitored in conjunction with the biomass control (Section 5.5.5)

## 5.5.2 Fencing and Access

An existing permanent stock-proof fence currently exists around the perimeter of the broader offset property. Under this agreement livestock (sheep) may be permitted into the offset site for control of herbaceous/grassy weeds and biomass management, with grazing to be generally excluded between 1<sup>st</sup> October and 31<sup>st</sup> January (see Section 5.5.5 for further details on stock exclusion periods).

Permanent fencing around the offset site is not recommended to avoid the need for establishing stock watering points which will displace native vegetation, to avoid the funnelling of stock through internal gates, and to minimise the disturbance to native vegetation along internal fence-lines. Temporary fencing will be erected around the offset site during the grazing exclusion period if livestock are grazed within other areas of the broader property and cannot be contained.

Posts marking the boundary of the offset site will be established to clearly identify the area for monitoring and management purposes.

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

### 5.5.2.1 Actions

- Maintain existing perimeter fencing and access control to the broader property;
  - If any damage occurs to the existing fencing, repair immediately.
- Erect temporary fencing around the offset site, if livestock are grazed within the broader property during the exclusion period, which generally occurs from 1<sup>st</sup> October to 31<sup>st</sup> January and cannot be contained to these areas (see Section 5.5.5 for further details on stock exclusion periods). Note that pulse grazing may be permitted from 1<sup>st</sup> February to 30<sup>th</sup> September provided conditions are dry enough, and ground disturbance (pugging) will not occur;
- Establish posts to mark the boundary of the offset site for management and monitoring purposes in accordance with advice from a qualified ecologist and land surveyor;
- Control access and any passive use of the offset site to minimise impacts on native vegetation;



- Provide access for farm owned management vehicles into the offset site, using the existing access gates. No additional vehicle access is to be established without the approval of the landowner, TfN and DAWE.

#### **5.5.2.2 Performance Indicators**

- Stock excluded from offset site during relevant exclusion period (generally October-November) (see Section 5.5.5 for further information on exclusion period);
- Access to the offset site is appropriately controlled;
- Existing and temporary fencing is maintained in good repair;
- Posts around the perimeter of the offset site are established for monitoring and management purposes; and,
- All fencing activities and repairs are effectively documented.

#### **5.5.2.3 Adaptive Management**

- The location of the temporary fencing may be slightly varied from year to year to minimise the disturbance to native vegetation along internal fence-lines.

### **5.5.3 Weed Control**

#### **5.5.3.1 Objectives**

The objective of weed control within the offset site is to improve the existing quality of Golden Sun Moth habitat by reducing/minimising future invasion by exotic flora. This will be achieved through a combination of controlled pulse grazing (to limit opportunities for weed establishment and seed set in exotic flora), and through on-ground management activities.

At the offset site, Golden Sun Moth were recorded in areas that typically had a 25-70% cover of native grasses, mainly Wallaby-grass *Rytidosperma* spp. and Spear-grass *Australstipa* spp. (Ecology and Heritage Partners 2020a, Appendix 3). Golden Sun Moth are known to occur in areas with a moderate-high weed cover, including the noxious weed Chilean Needle-grass (although not present within the offset site), and measures should be taken to manage non-native habitat without reducing the quality of habitat for GSM.

#### **Woody weeds**

A limited number (<5%) of African Boxthorn *Lycium ferrocicimum* were recorded within the offset site. African Boxthorn must be eliminated from the offset area. Monitoring for new and emerging woody weeds will be conducted throughout the year for the term of the agreement, and any new and emerging woody weeds eliminated.

#### **Herbaceous weeds**

The aim of management is to reduce cover below current levels. Current herbaceous weed cover within the offset site is estimated to be around 30-75% throughout the offset area, with weed cover higher in the areas not recorded as NTGVVP. Weeds listed in Table 4 were found within offset site. These weeds will be controlled and monitored each year to ensure their cover is reduced, with a VQA weed score of 6/15 achieved by the end





of the 10 year management period. Weeds must be treated using methods listed in Table 6 before the plant has flowered and set seed. Indigenous plants must not be impacted during treatment of weeds.

Annual weeds within the offset site are not considered to be a significant threat and will be managed using grazing to reduce their prominence.

Spot spraying with appropriate herbicide is the main method for reducing weed cover. Spot spraying will be undertaken regularly, particularly in spring and early summer, with a focus on killing weed plants prior to seed set. 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). Biomass control is also considered to be an effective method for controlling and reducing weed levels and will include controlled livestock grazing (sheep).

Weed control methodology for eradicating graminoid and herbaceous weeds will comprise manual removal and/or targeted spot spraying with an appropriate herbicide. Care must be taken when spraying herbicide to ensure that the poison does not affect native vegetation in the local application area. Weed species must be treated before seed is set, which may involve localised slashing if spot-spraying proves ineffective. A dye will be used in the spray to mark where spraying has been utilised.

The composition and distribution of vegetative cover across the offset site is likely to change over time in response to seasonal conditions or pulse grazing. Therefore, weed cover and species will be continually monitored and management activities adapted to ensure the desired outcomes outlined in this OMP are achieved.

### New and emerging herbaceous weeds

Monitoring for new and emerging herbaceous weeds will be conducted throughout the year for the term of the agreement, and any new and emerging weeds eliminated (<1% cover) (Table 6).

Any other significant environmental weeds identified within the broader property during monitoring will also be controlled. The landowners may consult with a qualified ecologist regarding appropriate control techniques for any new or emerging weeds identified within the offset area.

**Table 6.** Herbaceous weeds to be controlled – method and timing

Common name	Scientific name	Target cover at the offset	Method	Timing
Sheep Sorrel	<i>Acetosella vulgaris</i>	1%	Pulse-grazing	Generally, early Spring to avoid GSM flying season
Wild Oat	<i>Avena fatua</i>	3%	Pulse-grazing	Generally, early Spring to avoid GSM flying season
Barley-grass	<i>Hordeum</i> spp.	3%	Pulse-grazing	Generally, early Spring to avoid GSM flying season



Common Name	Scientific Name	Estimated cover at inception	Method	Timing
Cat's-ear	<i>Hypochaeris radicata</i>	3%	Pulse-grazing and targeted spot spraying with appropriate herbicide.	Generally, early Spring to avoid GSM flying season. Spot-Spray: Spring and early summer
Serrated Tussock	<i>Nassella trichotoma</i>	<1%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Rat-tail Fescue	<i>Vulpia</i> spp.	2%	Hand chip, or targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Toowoomba Canary-grass	<i>Phalaris aquatica</i>	25-40%	Targeted spot spraying with appropriate herbicide. Pulse-grazing.	Spot-Spray: Spring and early summer; Graze: early Spring to avoid GSM flying season
Spear Thistle	<i>Cirsium vulgare</i>	<1%	Hand chip, or targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer

### Spot Spraying

The application of herbicides is an effective and efficient control technique for a range of woody, herbaceous and grass weeds. The correct use and application of herbicides can provide targeted control of a range of species. However, all herbicides must be used in accordance with the manufacturer's specifications and occupational health and safety policies.

Application methods for herbicides include: spot spraying with a knapsack, dabbing of weeds in sensitive areas with a foam-tipped application device, rig spraying with a pump for larger areas, dabbing of cut stumps and injection of woody weeds.

Timing of the interval of spot spraying is dependent upon many factors such as plant age and growth seasons, plant stress levels and climatic factors. All these factors need to be considered when develop methodologies for the application of herbicides to ensure successful outcomes. Surrounding native plants' susceptibility to herbicides and ongoing uses of the treated areas must also be considered when choosing the right herbicide to be used in a weed control program, as some herbicides are residual and may persist within the soil for varying durations.

### 5.5.3.2 Actions

- Periodic spot spraying of weeds with appropriate herbicide will be undertaken, particularly through spring and early summer as detailed in Table 6;
- 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 DAWE;
- During weed control, natural regeneration of indigenous flora will be protected from off-target damage;



- Undertake pulse grazing within the offset site to reduce weed cover as per Section 5.5.5; and
- Annual 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.

### 5.5.3.3 Performance Indicators

- Eliminate all high threat and woody weeds (<1% cover) within Habitat Zone 1;
- Where herbicide application is employed, waterway sensitive products and non-residual herbicides are to be employed;
- Achieve a VQA weed score of at least 6/15 by the end of the 10 year management period;
- Achieve an understory score of at least 15/25 by the end of the 10 year management period;
- No off-target damage to indigenous plants; and
- No new or high threat weeds establishing within the offset site.

### 5.5.3.4 Adaptive Management

- Respond to the annual monitoring report and associated recommendations;
- If objectives and performance indicators are not being met:
  - Review grazing regime;
  - Increase frequency of control activities; and
  - Raise any significant issues with DAWE as soon as they arise.

## 5.5.4 Pest Animals

### 5.5.4.1 Objectives

The objective of pest animal management is to control pest animals (e.g. rabbits, foxes) within the offset site, as required, to minimise negative impacts to the Plains Grassland and NTGVVP communities, which provides habitat for Golden Sun Moth. The *Catchment and Land Protection Act 1994* lists rabbits and foxes as established pest animals and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land.

Rabbits will be monitored and controlled throughout the year. Small warrens were recorded within and surrounding the offset site; the size of the population was considered manageable. An integrated approach in accordance with BushBroker Information Sheet 7 - Standards of Management – Rabbits, will be followed which will involve fumigation, hand collapsing of burrows and baiting. Any rabbit carcasses found within the offset site will be removed to prevent poisoning of native predators. These actions are in accordance with the Commonwealth’s *Threat abatement plan for competition and land degradation by rabbits* (DAWE 2016).

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 collapsing.



Foxes are a threat to native fauna and must be controlled if identified within the offset site. If identified, fox dens will be destroyed through fumigation and hand collapse.

To reduce the likelihood of pest animals inhabiting the offset site on a regular basis, any artificial piles of logs and rocks that may be used as harbour by pest animals will be removed or dispersed.

Both rabbits and foxes will be controlled as detailed in Table 7.

**Table 7.** Pest animals to be controlled – species, method and timing

Species	Method	Timing
Rabbits	Baiting. When baiting collect and dispose of carcasses to prevent poisoning of native predators.	Ongoing
Rabbits & Foxes	Fumigation and collapse of rabbit burrows and fox dens if identified. Remove or disperse surface harbour.	Ongoing
New & Emerging pest animals	Monitor and control	Ongoing

#### 5.5.4.2 Actions

- Control and seek to locally eliminate pest animals using appropriate control techniques, including poison baits, warren fumigation and collapsing, or similar methods, without soil disturbance; and
- Fumigate rabbit warrens according to best practice management techniques. Fumigation works will be conducted by the landowner or a suitably qualified operator where rabbit activity is identified.

#### 5.5.4.3 Performance Indicators

- Any rabbit warrens or fox dens are controlled immediately following detection;
- Reduction in the abundance of pest animals, and no detectable impacts to the native grassland community; and
- All monitoring and management activities are effectively documented.

#### 5.5.4.4 Adaptive Management

- If pest animal management fails to achieve a reduction, or effectively control rabbit or fox numbers, or if impacts to GSM habitat are attributable to an increase in pest animals activities, a review of the current procedures and management measures will be undertaken;
- Review performance of pest animal contractor;
- Increase active monitoring of pest animal activity;
- Incorporate additional control measures (i.e. spotlighting and shooting); and
- Improve existing fencing of broader offset property to exclude pest fauna.



## 5.5.5 Biomass Control

### 5.5.5.1 Objectives

The objective of biomass control within the offset site is to promote and maintain floristic diversity, and inter-tussock spaces for germination and recruitment of native flora associated with the grassland communities. This will also have positive outcomes for managing Golden Sun Moth habitat. In addition, these actions will improve habitat quality for existing flora present within the offset site and assist with minimising the growth of weeds.

Biomass management is essential to enhance the ecological values throughout the offset site, including the maintenance and improvement of GSM habitat. Biomass management is also required to maintain inter-tussock spaces and prevent excessive competition to grassland forbs. Biomass control will aim to maintain approximately 20% to 40% cover of bare ground or inter-tussock space to allow sufficient space for recruitment of herbs and grasses. If the GSM offset area is found to be less than 20% bare ground then biomass reduction must be implemented at the earliest possible opportunity (with consideration of seasonality in order to minimise risk to ecological values, life and assets).

The current biomass reduction method applied throughout the offset site consists of low-intensity rotational grazing. Sheep are removed during the critical flowering/reproductive period for native species (October to January) then sheep are returned to graze between March and September. The current grazing regime and historical land use is not considered to have an adverse impact on the GSM habitat and given that native vegetation has persisted across the property, it is considered an appropriate method for managing biomass.

#### Pulse Grazing

Livestock grazing is the historical land use at the property and offset site (AECOM 2015). A detailed study has been undertaken on the ecological impacts and benefits various grazing regimes on grasslands within the property, in addition to similar properties (Mavromihalis *et al.* 2013). It was concluded that a period of grazing exclusion may be beneficial for enhancing conservation values of grasslands. Further, exclusion of grazing during spring (September-November) is most beneficial, however, due to seasonal variation in vegetation composition, fixed grazing strategies were considered inappropriate, as they do not allow for temporal fluctuations. For example, in occasional years, excluding grazing during summer, rather than spring, may be beneficial in controlling annual grasses following particularly heavy spring rains; although, grazing during spring every year may lead to a decline in species richness. As such, the grazing regime within this OMP is to generally exclude stock during spring, however, seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition. However, grazing during spring may not occur during more than two consecutive years; this aims to achieve a balance between having sufficient flexibility to respond to seasonal variation in plant growth and mitigating risks associated with spring grazing over extended periods.

Grazing will be undertaken in a controlled manner following the grazing management plan detailed in Table 8, to ensure that biomass accumulation control within the offset site is consistent with the standards for management of ecological grazing provided by DELWP (DSE 2009). 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 prohibited within the offset site at all times.

Grazing will occur over a short duration and exceed the standard stocking rate to prevent selective grazing within the offset site. The maximum length of continuous grazing is four weeks with at least two weeks rest



between cycles. At least three pulse grazing cycles will occur within the grazing period, one of which will occur immediately prior to the exclusion period (weather permitting).

**Table 8. Grazing Management Plan within the offset site.**

Grazing Requirement	Effect
Period where grazing by domestic stock is not permitted	October-November annually in perpetuity, in addition to times outside this period when standing water is present, or soil is waterlogged. However, if seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition.
Pulse grazing cycles required	3 (minimum)
Minimum rest from grazing between pulse grazing events	2 weeks
Maximum continuous pulse grazing event	4 weeks
Biomass management thresholds	Minimum height of 10 cm; total vegetation cover of no greater than 70%
Target inter-tussock space	Minimum of 30% of total offset site cover.

Stock must be removed should total vegetation cover fall to or below 70%. Stock pens and heavy vehicle traffic must be confined to the areas outside that covered within this OMP. Following any high rainfall events, stock will be removed from the offset site immediately.

### 5.5.5.2 Actions

- Biomass will be managed by pulse grazing with sheep for a maximum period of four weeks followed by a minimum two-week period of rest;
- In perpetuity, grazing will be excluded annually between October-November; however, on an occasional basis, seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition (Mavromihalis *et al.* 2013). Any grazing between October-November must be documented within reports to DAWE (Section 5.5.6). Grazing must not occur between October-November for more than two consecutive years; and,
- Stock must be excluded at any time when standing water is present, or soil is waterlogged, to mitigate pugging of the soil surface.

### 5.5.5.3 Performance Indicators

- Maintain or improve species richness and improve species diversity;
- Improve species recruitment through improvement and maintenance of suitable vegetation structure throughout the site; biomass remains moderate (i.e. no increase on current levels), and suitable inter-tussock spaces for natural recruitment maintained/provided (through transect monitoring and photo-points – see below);

- Achieve a VQA understory score of at least 15/25 by the end of the 10 year management period;
- Achieve a VQA recruitment score of at least 6/10 by the end of the 10 year management period;
- Stock grazing is excluded between October–November, except where necessary for further biomass reduction during dry periods. Grazing does not occur between October–November in more than two consecutive years;
- Establishment of 14 x 1m<sup>2</sup> quadrats throughout the offset site to monitor density of biomass;
- Weed biomass does not increase in areas of remnant vegetation;
- Minimum of 20% of total offset site cover will comprise inter-tussock space; and,
- All grazing events effectively documented.

#### **5.5.5.4 Adaptive Management**

Highly seasonal conditions are not uncommon across western Victoria and can result in variable conditions from year to year. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the Landowner.

#### **5.5.6 Monitoring and Reporting**

This Offset Management Plan requires the approval holder to submit a report annually to DAWE for each year of the 10 Years of this Offset Management Plan and continue monitoring every year following for the life of the project approval under the EPBC Act. The reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports.

The Landowner will establish seven permanent photo-points in the GSM habitat offset site. These points will be marked via GPS and shown on a Figure. Photographs taken from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October each year and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same direction, trajectory and camera settings as is practicable.

Photographs and Annual Reports are to be submitted at least 2 months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date.

The Annual Report addresses progress against the commitments set out in this agreement. Annual Reports must provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for each zone.

The template for a landowner monitoring and reporting form is shown in Table 9. Information to be provided in the reporting form includes:

- A copy of the Management Action Table from the OMP with information on which actions have been completed for year/s of this reporting period;
- A description of the specific monitoring results from surveys undertaken (i.e. GSM habitat condition assessment);
- Success of weed and pest animal control work;



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- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.); and,
- Provide photographs showing evidence of works.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the actions that will be action/s will be undertaken to implement the requirement.

All records/evidence of management actions must be maintained and be submitted to TfN and/or DAWE upon request, and any proposed changes to management must be submitted to TfN and/or DAWE prior to the changes being undertaken.

**Table 9.** Template for a Landowner Monitoring and Reporting Form

Landowner of offset site
Location and address of offset site
Offset site number (if applicable)
Offset plan reference number (if applicable)
Responsible Authority
Report #
Signature
Date
Details of works undertaken

### 5.5.7 Offset Management Plan Review

The protection and management of the nominated offset area is for perpetuity. The OMP will be reviewed by a suitably qualified Ecologist, in consultation with the Landowner, five years from the date of approval. The focus of the review will be to determine its effectiveness in managing the GSM habitat.





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The 5-year review of the OMP will be submitted to Trust for Nature and DAWE for approval prior to any recommendations regarding management of the offset site being implemented.

## 5.6 Management Actions Table

Management actions proposed to compensate for the loss of native vegetation and habitat under Commonwealth legislation at the offset site are presented in Table 10. The actions constitute the minimum management requirements for the offset site over the mandatory 10-year management period and are appropriate for the management of the GSM population.

Table 10. Management Actions Table

Year from commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Fencing</b>				
1-10	26.5 ha of GSM habitat	Maintain fencing in good condition around entire boundary of all sites where fencing exists or is required Refer Section 5.5.2	Ongoing	Maintain fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing
1-10	26.5 ha of GSM habitat	Erect temporary fencing around offset site during grazing exclusion period (if stock present during this period within the property cannot be confined to certain areas) Refer Section 5.5.2	October -November	Exclude stock from the offset site during exclusion period to protect GSM habitat.
1-10	26.5 ha of GSM habitat	If a threat arises erect an additional fence immediately around the entire boundary of the offset site Refer Section 5.5.2	Immediately on identification of threat	Erect fencing to DELWP fencing standards in BushBroker Information Sheet 12 – Standards for Management – Fencing
1	26.5 ha of GSM habitat	Establish posts to mark the boundary of the offset site in accordance with advice from a qualified ecologist and land surveyor Refer Section 5.5.1.	Immediately on approval of Year 1 of management works	Facilitate management and monitoring of the offset site. Delineate location of temporary exclusion fence.



Year from Commencement	Area	Management Action Description	Timing	Environmental Outcome to be Achieved
<b>Woody Weeds</b>				
1-10	26.5 ha of GSM habitat	Eliminate all new and emerging woody weeds Refer Section 5.5.3	Ongoing	Eliminate woody weeds (<1% cover)
<b>Herbaceous Weeds</b>				
1-10	26.5 ha of GSM habitat	Control all herbaceous weeds. Refer to Table 4 for list of herbaceous weeds, their control method and timing of actions Refer Section 5.5.3	Refer to Table 6	Eliminate all high threat weeds (<1% cover) within offset site.  Minimise off-target damage (avoid all native plants)
<b>Pest Animals</b>				
1-10	26.5 ha of GSM habitat	Eliminate all new & emerging herbaceous weeds Refer Section 5.5.3	Ongoing.	<1% cover of all new and emerging herbaceous weeds at the end of Year 10
1-10	26.5 ha of GSM habitat	Control rabbits and foxes. Refer to Table 5 for a list of control methods and timing of actions Refer Section 5.5.4	Refer to Table 7	No surface disturbance within the offset site; No active rabbit warrens to be present; No active fox dens to be present; No rubbish/artificial harbour present; Minimal artificial piles of logs and rocks;
1-10	26.5 ha of GSM habitat	Monitor and control rabbits and foxes Refer Section 5.5.4	Ongoing	Reduction in the abundance of pest animals, and no detectable impacts to the native grassland
1-10	26.5 ha of GSM habitat	Monitor and control all new and emerging pest animals Refer Section 5.5.4	Ongoing	Control numbers of any new & emerging pest animals

Year from commencement	Area	Management Action Description	Timing	Environmental outcomes to be achieved
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**Biomass Management**

1-10	26.5 ha of GSM habitat	Pulse grazing Refer Section 5.5.5	The maximum length of continuous grazing is four weeks with at least two weeks rest between cycles. Stock generally excluded during October -November Stock removed immediately following any high rainfall events.	Stock must be removed should total vegetation cover fall to or below 70% Sufficient bare ground (approximately 20% to 40% cover) maintained in order to maintain space for recruitment of herbs and grasses. No loss of native plant diversity as a result of grazing regimes. Reduction in weed cover.
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**Detailed native vegetation and GSM monitoring**

Years 1-4, 6, 8 and 10	26.5 ha of GSM habitat	Monitoring Refer Section 8.2 and 8.3	Spring/Summer	Allow for ongoing auditing of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP.
------------------------	------------------------	---	---------------	--

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
------------------------	------	-------------------------------	--------	--------------------------------------

**Annual reporting**

1-10	26.5 ha of GSM habitat	Prepare and submit an annual report and photo monitoring to TfN and DAWE. Refer Section 5.5.7 and 8.1	Submit at least 2 months prior to on-title agreement anniversary date	<p>Annual report is signed, dated and submitted by the Landowner at least 2 months prior to the anniversary date of on-title agreement registration</p> <p>Report provides enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the commitments for the offset site.</p> <p>Allow for ongoing auditing of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports.</p> <p>Obligations of the Landowner have been met and the obligations form is signed, dated and submitted with the annual report</p>
5	26.5 ha of GSM habitat	Review effectiveness of OMP. Refer Section 5.5.8 and 8.1	End of Year 5.	<p>if existing OMP is not leading to the ongoing maintenance and improvement of the GSM population, a review will be undertaken, and a new management plan prepared for the remaining 5 years of management.</p>

## 6 CONTINGENCY RESPONSE AND CORRECTIVE ACTIONS

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The landholder will use an Adaptive Management Approach to allow the flexibility to respond appropriately and effectively to the uncertainties involved in ecological processes. This will ensure that management objectives are being met while allowing for altered circumstances to be included in the management of the site.

If after Year 5 of management, the actions detailed in this OMP are not leading to the ongoing maintenance and improvement of the GSM habitat, the approval holder will instigate a review of the OMP, and a new management plan will be prepared for the remaining five years of management.

Highly seasonal conditions are not uncommon across western Victoria and can result in variable conditions from year to year. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the Landowner.

Any proposed changes to the management contrary to that specified within this plan must be approved by DAWE, prior to implementation. Any proposed uses or development of the site which conflict with the landowners' commitments or maintenance/improvement of the GSM habitat are not permitted under this plan.

Alternative management measures, as part of an adaptive management approach, may be implemented if:

- The management outcomes outlined within Section 5 are unable to be met based on methods outlined within this plan;
- A new management technique has been identified which is considered to be more effective in meeting the objectives of this OMP, and relevant recovery plans, threat abatement plans, conservation advices and does not increase risk of impacts to GSM habitat. A review of the benefits and risks of the proposed management technique must be prepared and submitted to DAWE; and,
- The proposed management technique has been approved by DAWE.

Where management outcomes outlined within Section 5 have not been met during any monitoring event (Section 8) corrective actions must be identified upon submission of the monitoring report.

Where an adaptive management approach has been implemented, the success, or failure, of the approach must be outlined within subsequent monitoring reports. The monitoring report must make recommendations on whether the approach should be continued, or whether subsequent alternative management is recommended.

### 6.1 Managing Uncertainty

An assessment of potential risks associate with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.



## 7 EMERGENCY CONTACTS AND PROCEDURES

Should any environmental emergency occur on-site that poses a risk to the objectives of this OMP, the relevant contacts (Table 11) must be notified as soon as possible, and no later than 12 hours following the event. At a minimum, DAWE, and the landholder must be notified; CFA and Victoria Police should be notified if assistance is required from these emergency services (e.g. control of wildfire). Emergency services must be advised of the on-site protections to avoid inadvertent damage to ecological values (e.g. creation of graded earthen fire breaks within the site, which unless absolutely necessary, must be avoided).

**Table 11. Emergency contacts**

Source	Role	Telephone
Country Fire Authority (CFA)	Bushfire emergency	000
Victoria Police	Various (e.g. unauthorised access)	000
DAWE	Offset Monitoring Responsibility	1800 803 772
TfN	Offset Monitoring Responsibility	03 8631 5888
Landholder	[REDACTED]	Undisclosed

## 8 MONITORING AND REPORTING

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Ongoing monitoring is required to determine whether the GSM habitat quality persists and remains viable over time and to ensure that management actions improve habitat.

Site monitoring must include:

- General habitat monitoring (i.e. as described in Section 5.5.7) by the landholder (or an appointed entity on behalf of the landowner) annually; and,
- Detailed monitoring to be conducted by a qualified ecologist for an initial four-year period, and then in Years 6, 8 and 10 of this management plan. This will include a detailed habitat hectares assessment in each year of the detailed monitoring.

Further details on the monitoring actions is outlined below.

### 8.1 Annual Monitoring of Habitat and Effectiveness of Management actions

The landowner undertakes to establish seven permanent photo-points across the offset site. These points will be marked via GPS and shown on a Figure. Photographs taken from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October annually and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same direction, trajectory and camera settings as is practicable.

Annual monitoring must be undertaken by the landowner (or an appointed entity on behalf of the landowner), and must include an assessment of:

- Photographs taken at established photo-points;
- The extent, severity, trend and presence of current weed species and any new and emerging weed species.
- The extent, severity, trend and presence of pest animal activity;
- Biomass levels, visually assessed across the site;
- Evidence of unpermitted human/stock access; and,
- Any new threats.

The annual monitoring must be undertaken for each year of the 10 Years of this Offset Management Plan.

### 8.2 Detailed Vegetation Monitoring (Years 1-4, 6, 8 and 10)

Detailed vegetation monitoring will be instigated by the approval holder and conducted by a qualified ecologist for an initial four-year period, and then in Years six, eight and 10 of this management plan, and will document the following components:





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- Overall assessment of the quality and quantity of vegetation and composition of species (i.e. Habitat Hectare assessment\*);
- Biomass levels, assessed through 14 x 1 m<sup>2</sup> sampling plots equidistant along the offset site; and,
- The extent, severity, trend and presence of current weed species and any new and emerging weed species.

*\* Department of Sustainability and Environment 2004. Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Department of Sustainability and Environment, Melbourne Victoria*

### 8.3 Golden Sun Moth population monitoring (Years 1-4, 6, 8 and 10)

In addition to native vegetation monitoring outlined in Section 8.2, appropriate monitoring of GSM will be undertaken for an initial four year period, and then in years 6, 8 and 10 of this management plan, or thereafter upon written agreement with the Commonwealth Minister for Environment. The GSM monitoring detailed below is to be instigated by the Approval holder, and undertaken by trained observers (i.e. suitably qualified ecologist). If the results indicate a decline in the population size or habitat degradation becomes evident, actions within this management plan will be re-evaluated. If any changes to management are required in the landowners' view, a revised management strategy must be approved by DAWE prior to implementation.

Specific survey procedures will follow those approved monitoring guidelines for GSM prepared by DEWHA\*. The following measures will be undertaken as part of population and habitat monitoring for GSM at the offset site:

- Surveys are to be conducted by suitably trained observers;
- Surveys will concentrate in areas identified as supporting indigenous grassland, namely those supporting wallaby-grass *Rytidosperma* spp. which is a known food source for Golden Sun Moth.
- Surveys will be conducted over a minimum of four separate days during the known flight season (i.e. November to early January).
- Surveys will be undertaken at a time which is considered suitable for detecting the species (i.e. when adult males are flying), and when Golden Sun Moth was observed flying at nearby locations. (The male of this species generally flies between 11am and 3pm on calm, warm (over 20°C), sunny days).

*\* Department of the Environment, Water, Heritage and the Arts 2009. Significant impact guidelines for the critically endangered golden sn moth (*Synemon plana*). EPBC Act policy statement 3.12.*

### 8.4 Reporting

To demonstrate that the management measures are effective in meeting the environmental outcomes, this OMP requires the approval holder to submit a report annually DAWE for each year of the 10 Years of this Offset Management Plan.

Photographs and reports are to be submitted at least two months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date.

The report must address progress against the commitments set out in this agreement and the conditions of the EPBC Act referral (EPBC 2018/8260). Reports should provide enough detail in the form of written



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comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for the offset site.

Information to be provided in the progress report includes:

- Detailing actions completed during the reporting period;
- Results of vegetation condition assessment (Habitat Hectare Assessment);
- Results of GSM population monitoring;
- A description of the specific monitoring results from ecological surveys undertaken;
- Results of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.);
- Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation;
- Photographs showing evidence of works; and,
- Assessment on how the site is on track to meet, or meets the conditions under the EPBC referral (EPBC 2018/8260), including an assessment against the EPBC offset gain calculator inputs

If any agreed management actions or commitments (excluding third party monitoring) are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the substituted actions that will be undertaken in order to compensate and ensure the required outcomes are achieved.

All records/evidence of management actions must be maintained and be submitted to DAWE upon request.

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- DoE 2013. Approved Conservation Advice for *Synemon plana* (golden sun moth). Canberra: Department of the Environment. Department of Environment, Canberra.
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## FIGURES

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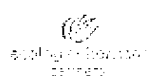
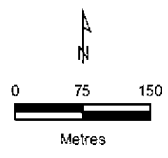
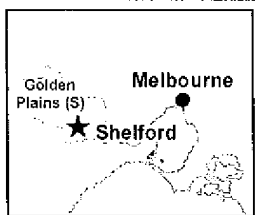


Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Figure 1**  
**GSM Offset Site**  
 EPBC 2018/8260,  
 Mount Gow,  
 Shelford, Victoria

- Legend**
- Study Area
  - African Box-thorn
  - Rabbit warren
  - Golden Sun Moth records (9/12/2019)
  - Golden Sun Moth records (16/12/2019)
  - Golden Sun Moth habitat

- Ecological Vegetation Classes**
- Plains Grassland
  - NTGVVP
- Proposed offset sites for EPBC Act referral 2018/8260**
- Proposed high quality GSM offset site (20.5 ha)
  - Proposed moderate quality GSM offset site (6 ha)



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## Appendix 1. Risk Assessment and Management Definitions

### Risk framework

		Consequence				
		Minor	Moderate	High	Major	Critical
Likelihood	Highly Likely	Medium	High	High	Major	Critical
	Likely	Low	Medium	High	High	Major
	Possible	Low	Medium	Medium	High	Major
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High



## Likelihood and consequence

### Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)

Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
<b>Minor</b>	May occur in exceptional circumstances

### Qualitative measure of consequences (what will be the consequence/result if the issue does occur)

Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
<b>Critical</b>	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.





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## Appendix 2. EPBC OFFSET CALCULATOR

**Offsets Assessment Guide**  
 This is a supporting document for the Assessment Process and Assessment Questionnaire for 1999  
 1 October 2012  
 This guide is for use by the client and the contractor.

Version of National Development Guidelines	Version 2.0 (2012)
Version of Assessment Questionnaire	Version 2.0 (2012)
Version of Assessment Process	Version 2.0 (2012)
Version of Assessment Guide	Version 2.0 (2012)

Impact calculator					
Invested matter attributes relevant to cost?	Attribute	Description	Quantity of Impact	Units	Information source
No	Area of community	Area	1,237	Hectares	NDC mapping
		Quality	5	Number of	
		Time taken to complete	0.02	Hours	
Yes	Area of habitat	Area	2.0	Hectares	NDC mapping
		Quality	5	Number of	
		Time taken to complete	0.02	Hours	
No	Protected matter attributes relevant to cost?	Area	2.0	Hectares	NDC mapping
		Quality	5	Number of	
		Time taken to complete	0.02	Hours	
No	Number of individuals per hectare (birds, bats, etc.)	Area	2.0	Hectares	NDC mapping
		Quality	5	Number of	
		Time taken to complete	0.02	Hours	
No	Condition of habitat (change in habitat condition, loss of habitat, etc.)	Area	2.0	Hectares	NDC mapping
		Quality	5	Number of	
		Time taken to complete	0.02	Hours	
The number of species					
Yes	Area of community				
Yes	Area of habitat				
Yes	Protected matter attributes relevant to cost?				
Yes	Number of individuals per hectare (birds, bats, etc.)				
Yes	Condition of habitat (change in habitat condition, loss of habitat, etc.)				

Offset calculator														
Projected matter attributes	Total quantity of impact	Units	Proposed offset	Time taken (years)	Start time and quality	End time and quality with offset	Baseline and quality with offset	Baseline and quality without offset	Baseline and quality with offset	Baseline and quality without offset	Adjusted gain	Net project value (calculated business)	Minimum (p95) direct offset requirement	Information source
Area of community	24													
Area of habitat	24													
Protected matter attributes relevant to cost?	24													
Number of individuals per hectare (birds, bats, etc.)	24													
Condition of habitat (change in habitat condition, loss of habitat, etc.)	24													
The number of species														
Area of community	24													
Area of habitat	24													
Protected matter attributes relevant to cost?	24													
Number of individuals per hectare (birds, bats, etc.)	24													
Condition of habitat (change in habitat condition, loss of habitat, etc.)	24													

Area of community	24
Area of habitat	24
Protected matter attributes relevant to cost?	24
Number of individuals per hectare (birds, bats, etc.)	24
Condition of habitat (change in habitat condition, loss of habitat, etc.)	24

Summary		
Projected matter attributes	Quantity of impact	Net project value of offset
Area of community	24	24.00
Area of habitat	24	24.00
Protected matter attributes relevant to cost?	24	24.00
Number of individuals per hectare (birds, bats, etc.)	24	24.00
Condition of habitat (change in habitat condition, loss of habitat, etc.)	24	24.00
The number of species		
Area of community	24	24.00
Area of habitat	24	24.00
Protected matter attributes relevant to cost?	24	24.00
Number of individuals per hectare (birds, bats, etc.)	24	24.00
Condition of habitat (change in habitat condition, loss of habitat, etc.)	24	24.00

**Offsets Assessment Guide**  
 An assessment guide for the Environmental Protection and Assessment Consultants (EPAC) Contract 19/189  
 October 2012  
 This guide contains information that is confidential and not to be distributed outside the project team.

Name		COFFIN, Ian Victor
PRINCIPAL CONSULTANT		PRINCIPAL CONSULTANT
Approved Practitioner of Certification		4-EPAC

Impact calculator				Units	Information source
Area of community	Area	Area	1.25	hectares	10000000
		Quality	3	people	
		Total quantity of impact	3.75	people	
Proposed matter distribution through an offset scheme	Area	Area	2.25	hectares	10000000
		Quality	3	people	
		Total quantity of impact	2.25	people	
Number of offset plants	Area	Area	1.25	hectares	10000000
		Quality	3	people	
		Total quantity of impact	3.75	people	
<b>Summary</b>					
Total quantity of impact				7.5	people
Total quantity of offset				7.5	people

Area of community		1.25
Proposed matter distribution through an offset scheme		2.25
Number of offset plants		1.25

Offsets calculator															
Proposed matter distribution to offset	Attributable regional emissions to offset	Total quantity of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Confidence in result (%)	Adjusted gain	Net present value (offsetting business)	% of impact offset	Minimum (offsetting business requirement)	Maximum (offsetting business requirement)	Information source
Area of community	1.25	3.75	people	1.25	10 years	1.25 hectares	1.25 hectares	1.25 hectares	95%	0.22	0.66	0.75	0	0	
Proposed matter distribution through an offset scheme	2.25	2.25	people	2.25	10 years	2.25 hectares	2.25 hectares	2.25 hectares	95%	0.22	0.66	0.75	0	0	
Number of offset plants	1.25	3.75	people	1.25	10 years	1.25 hectares	1.25 hectares	1.25 hectares	95%	0.22	0.66	0.75	0	0	
<b>Summary</b>															
Total quantity of impact		7.5	people	7.5	10 years	7.5 hectares	7.5 hectares	7.5 hectares	95%	0.22	0.66	0.75	0	0	
Total quantity of offset		7.5	people	7.5	10 years	7.5 hectares	7.5 hectares	7.5 hectares	95%	0.22	0.66	0.75	0	0	

Proposed matter distribution to offset	Attributable regional emissions to offset	Total quantity of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Confidence in result (%)	Adjusted gain	Net present value (offsetting business)	% of impact offset	Minimum (offsetting business requirement)	Maximum (offsetting business requirement)	Information source
Area of community	1.25	3.75	people	1.25	10 years	1.25 hectares	1.25 hectares	1.25 hectares	95%	0.22	0.66	0.75	0	0	
Proposed matter distribution through an offset scheme	2.25	2.25	people	2.25	10 years	2.25 hectares	2.25 hectares	2.25 hectares	95%	0.22	0.66	0.75	0	0	
Number of offset plants	1.25	3.75	people	1.25	10 years	1.25 hectares	1.25 hectares	1.25 hectares	95%	0.22	0.66	0.75	0	0	
<b>Summary</b>															
Total quantity of impact		7.5	people	7.5	10 years	7.5 hectares	7.5 hectares	7.5 hectares	95%	0.22	0.66	0.75	0	0	
Total quantity of offset		7.5	people	7.5	10 years	7.5 hectares	7.5 hectares	7.5 hectares	95%	0.22	0.66	0.75	0	0	



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## Appendix 3. Offset Site Assessment Report



## Offset Site Assessment: Mount Gow, Shelford, Victoria

**Date:** 12 May 2020

**Author:** Claire Ranyard (Consultant Botanist)

**Ref:** 10223

### 1 Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by CH2M Beca on behalf of Western Water to undertake a site assessment at Mount Gow, Shelford, Victoria. The purpose of the assessment was to confirm the ecological values present within the study area. An initial assessment of the offset site was undertaken by AECOM (2015), and a subsequent assessment was undertaken by Ecology and Heritage Partners in early 2020 to confirm the current extent and condition of the vegetation and ecological values within the offset site, with the results presented in the current report.

The initial assessment undertaken by AECOM (2015) identified two matters listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) present within the property, Golden Sun Moth *Synemon plana* and *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP).

The current report details the extent of NTGVVP through recent mapping and provides an assessment of the quality of NTGVVP present within the study area, including the native species composition, weed cover, and presence of pest animals. Golden Sun Moth surveys were undertaken in December 2019, with the results presented below. The results of the field assessment will be used to calculate the area of NTGVVP and Golden Sun Moth habitat to be protected to meet the offset requirements of Western Water for a current development project which involves the removal of NTGVVP and Golden Sun Moth habitat.

### 2 Study Area

The third-party offset site (offset site) is located at a private property in Mount Gow, Shelford, Victoria, approximately 90 kilometres south-west of the impact site in Parwan, Victoria (Figure 1). The offset site will protect 3.45 hectares of NTGVVP and 26.5 hectares of Golden Sun Moth habitat and is part of a larger property intersected by Warrambine Creek and abutting 35 kilometres of Mount Gow Road. All areas identified as NTGVVP and Golden Sun Moth habitat within the offset site are proposed to be managed for vegetation offset and conservation purposes.

According to the Victorian Department of Environment, Land, Water and Planning (DELWP) NatureKit Map (DELWP 2020a), the study area occurs within the Victorian Volcanic Plain Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Golden Plains Shire municipality.

### 3 Field Assessment

Where native vegetation was identified a habitat hectare assessment was undertaken following methodology described in the Vegetation Quality Assessment Manual (DSE 2004).



### 3.1 Natural Temperate Grassland of the Victorian Volcanic Plain

A field assessment of the study area was undertaken by a qualified ecologist on 24 January 2020 and 24 February 2020. The inspection sought primarily to identify the extent and condition of the NTGVVP ecological community, and to identify the presence of any key threats to the community, such as weeds and pest animals. The entire study area was walked, and where potential patches of NTGVVP were identified, the patch was assessed against the diagnostic and condition thresholds for the community (DSEWPC 2011) to determine if it was eligible for listing.

### 3.2 Golden Sun Moth Surveys

Targeted surveys for GSM were undertaken over two separate days during the known flight season, on 9 and 16 of December 2019 by zoologists experienced in the detection and identification of the species. The presence of GSM flying at known reference sites (i.e. Merrimu, Craigieburn Grasslands) was used to confirm suitable days for surveys. Surveys were undertaken at a time which is considered suitable for detecting the species (i.e. when adult males are flying), between 10:00 am and 3:00 pm on calm, warm (over 20°C), sunny days with still conditions. All surveys were undertaken on foot.

Surveys concentrated on areas identified as supporting suitable habitat, which included areas dominated by Spear-grass *Austrostipa* spp. and Wallaby-grass *Rytidosperma* spp., a known food source for GSM.

AECOM (2015) recorded a low number of Golden Sun Moth within the offset area on 15 December 2014, and the purpose of the current surveys was to confirm that Golden Sun Moth were still present within the proposed offset area. Survey procedures were in accordance with the *Significant Impact Guidelines for the Critically Endangered Golden Sun Moth* (DEWHA 2009), with the following tasks undertaken:

- A habitat assessment was completed detailing information on habitat quality, presence of weeds and floristic diversity;
- Surveys were conducted by ecologists experienced in the detection and identification of Golden Sun Moth;
- The study area was surveyed on two separate occasions, with at least one week between surveys;
- Surveys took place during the species' flight season (generally described as late October to early January). Moths were confirmed flying at known, nearby reference sites (Broadmeadows) prior to undertaking each survey;
- Surveys were undertaken during weather conditions suitable for detecting the species (i.e. between 10am and 3pm on warm (over 20°C by 10am) days with minimal cloud cover and still conditions); and
- Surveys were conducted by qualified zoologists walking or driving (where access was permitted) 10 to 50-metre-wide parallel transects across all areas of suitable habitat.



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### 3.3 EPBC Act

Offsets under the EPBC are calculated in accordance with the Commonwealth environmental offset policy (DSEWPaC 2012a) and the EPBC Act offset calculator (DSEWPaC 2012b).

Refer to Appendix 2 of the Preliminary Documentation (Ecology and Heritage Partners 2020) for the gain calculations under the EPBC Act for NTGVVP and Golden Sun Moth habitat based on the impact site and proposed offsets site conditions.

### 3.4 Assessment Qualifications and Limitations

It is important to acknowledge that the number of documented records for the target species within and surrounding the study area is not necessarily a reflection of population size or density. Furthermore, a documented record may indicate a species' presence in an area at a given point in time, but it generally does not offer information about how a species is making use of an area (e.g. foraging, dispersing, reintroducing, etc.). This can be important information when determining the potential impact of a proposed action on a threatened species.

Targeted surveys were undertaken during optimal seasons for the identification of the targeted fauna species. Based on available information the Golden Sun Moth flight season commenced at a majority of sites in early-mid November 2019, with moths expected to fly through to early-January 2020. It is considered that the survey effort, timing and results presented meet the objectives of the surveys and provide sufficient information to support the approvals processes. Known reference sites were checked prior to the commencement of surveys to confirm that the species was flying on survey days.

Fauna surveys were conducted under the Ecology and Heritage Partners Pty Ltd research permit (#10005952) issued by DELWP under the *Wildlife Act 1975*.

## 4 Results

### 4.1 Overall Site Condition

The majority of the study area was characterised by the Ecological Vegetation Class (EVC) *Heavier-soils Plains Grassland* (EVC 132\_61). This EVC is represented by treeless vegetation, dominated by native grasses and herbs within areas that receive at least 500 mm annual rainfall.

Three quality conditions of Plains Grassland were recorded, several high quality patches (PG1; Plate 1), one moderate quality patch, (PG2; Plate 2) and a larger lower quality patch (PG3) (Figure 2). Condition scores based on the habitat hectares assessment for each patch are provided in Appendix 2.

The high and moderate quality patches (PG1 and PG2) meet the key criteria for listing as NTGVVP with a total of 19.12 hectares of NTGVVP recorded within the study area. Further details of the NTGVVP patch are provided in Section 4.2. Surrounding the patch of NTGVVP is lower quality Plains Grassland and the entire study area is confirmed habitat for Golden Sun Moth *Synemon plana*.

Native grass species commonly observed across the site included Spear-grass., Wallaby-grass, Common Wheat-grass *Anthosachne scabra*, Common Tussock-grass *Poa labillardierei*, and native herbs included Bronze Bluebell *Wahlenbergia luteola*, Blue Devil *Eryngium ovinum*, Grassland Wood-sorrel *Oxalis perennans*, Crane's-



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bill *Geranium* sp., Pink Bindweed *Convolvulus* sp., Yellow Rush Lily *Tricoryne elatior*, Narrow Plantain *Plantago gaudichaudii* and Twining Glycine *Glycine clandestina* (Plate 3).

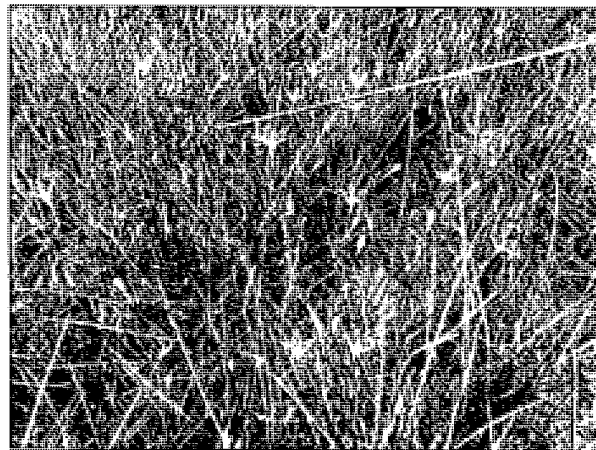
Weeds are scattered across the study area with Toowoomba Canary-grass *Phalaris aquatica* being the dominant weed present. All other weeds were present in low concentrations. One woody weed, African Boxthorn *Lycium ferocissimum*, was present in limited numbers with approximately 10 individuals observed, primarily in the north eastern corner of the offset site (Plate 4). A few rabbit warrens were recorded, and several rock piles are present which may harbour pest animal species.



**Plate 1.** High quality Plains Grassland within the study area (Ecology and Heritage Partners Pty Ltd 24/02/2020.).



**Plate 2.** Moderate quality patches of Plains Grassland present within the study area (Ecology and Heritage Partners Pty Ltd 24/02/2020).



**Plate 3.** Native herbs present within the study area (Ecology and Heritage Partners Pty Ltd 24/02/2020).



**Plate 4.** Small patch of African Box thorn present within the study area Ecology and Heritage Partners Pty Ltd 24/02/2020).

#### 4.2 Natural Temperate Grassland of the Victorian Volcanic Plain

PG1 and PG2 contained a moderate to high cover of native perennial grasses and met the condition threshold that define the NTGVVP community. Native grasses present included Spear-grasses, Wallaby-grasses, and Common Wheat-grass.





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Weed cover within PG1 was low, with scattered occurrences of Wild-oat, Toowoomba Canary-grass and Ribwort *Plantago lanceolata*, and several African Box-thorn in the north eastern section of the patch. PG2 had a higher cover of Toowoomba Canary-grass, however still contained at least 50% cover of native perennial grasses and no woody weeds.

#### 4.2.1 Condition Thresholds for listing as Natural Temperate Grassland of the Victorian Volcanic Plain

##### Step 1 – Determining if the Natural Temperate Grassland ecological community is present.

- Does the patch occur within or near the Victorian Volcanic Plain Bioregion? Yes
- Is the patch dominated by native vegetation? Yes
- Are trees absent or sparse? Yes – absent
- Is the ground vegetation dominated by native grasses and/or herbs? Yes

##### Step 2 – Determining if the patch is of sufficient quality for national listing.

- Is the patch bigger than or equal to 0.05 hectares? Yes – 19.12 hectares mapped
- Do the dominant native species represent at least 50% of the native species and the perennial tussock cover? Yes

Result: The patch meets the condition thresholds for the nationally significant ecological community.

#### 4.3 Pest and Weed Condition

Table 1 and Table 2 below detail the species and percentage cover of pest animal and weed infestations present within the NTGVVP patches, noting that no woody weeds were recorded in PG2.

**Table 1.** Pest animals recorded within NTGVVP patches.

Habitat zone	Common name	Scientific name	Notes on impact
PG1	European Rabbit	<i>Oryctolagus cuniculus</i>	Small warrens were recorded within and surrounding habitat zone impacting upon native vegetation. Rock pile adjacent to zone which may harbor pest fauna.
	Red Fox	<i>Vulpes vulpes</i>	Small amount of disturbance, no dens observed within habitat zone.
PG2	European Rabbit	<i>Oryctolagus cuniculus</i>	Small warrens were recorded within and surrounding habitat zone impacting upon native vegetation.
	Red Fox	<i>Vulpes vulpes</i>	Small amount of disturbance, no dens observed within habitat zone.

**Table 2.** Woody weeds recorded within patches of NTGVVP

Habitat zone	Common name	Scientific name	Notes on impact
PG1	African Box-thorn	<i>Lycium ferocissimum</i>	A low number of African Box-thorn were recorded within PG1. Eradication will be achievable within a prescribed 10-year management plan.



**Table 3.** Total cover of woody weeds recorded in PG1 habitat zone

Habitat zone	Total cover of woody weeds recorded (%)
PG1	1% total cover of woody weeds within PG1 habitat zone.

**Table 4.** Total cover of herbaceous and grassy weeds recorded in NTGVVP patches

Habitat zone	Total cover of all herbaceous and grassy weeds (%)	Total cover of high threat herbaceous and grassy weeds (%)
PG1	30% - Common weeds; Toowoomba Canary-grass, Wild Oat	20% - Common high threat weeds; Toowoomba Canary-grass
PG2	40% - Common weeds; Toowoomba Canary-grass, Wild Oat	30% - Common high threat weeds; Toowoomba Canary-grass

#### 4.4 Golden Sun Moth Targeted Survey

Targeted surveys for Golden Sun Moth were undertaken over two separate days during the known flight season, on 9 and 16 of December 2019, with approximately 60 Golden Sun Moth recorded during the surveys (Figure 2). A summary of survey results, reference site where Golden Sun Moth were known to be flying on the survey day and weather conditions is given below in Table 5.

**Table 5.** Golden Sun Moth survey results

Date	Time	Reference site	Temperature (°C)	Wind (km/h)	Cloud cover (%)	No. of flying specimens	No. GSM
09/12/2019	10:00 – 15:00	Craigieburn	35.0	17	10	5	2
16/12/2019	10:00 – 15:30	Broadmeadows	23.0	15	0	7	60+

\*reference site refers to known locations of GSM populations where individuals were recorded flying on the day of the relevant survey to allow confidence that the survey conditions were suitable.

## 5 Discussion

Several patches (PG1a-g; PG2a) of NTGVVP were recorded within the study area, totalling 19.12 hectares of NTGVVP within the broader proposed offset area. The remaining patches (PG3) do not currently meet the condition thresholds for listing as the ecological community due to the high weed cover (up to 40%), however, may meet the thresholds in the future if the weed cover within the patch is reduced, primarily through the reduction in cover of the perennial weed, Toowoomba Canary-grass.

Golden Sun Moth surveys were undertaken within the northern section of the study area, with numerous individuals recorded flying in the grassland patches, in both NTGVVP and lower quality Plains Grassland areas.

# AW922733A



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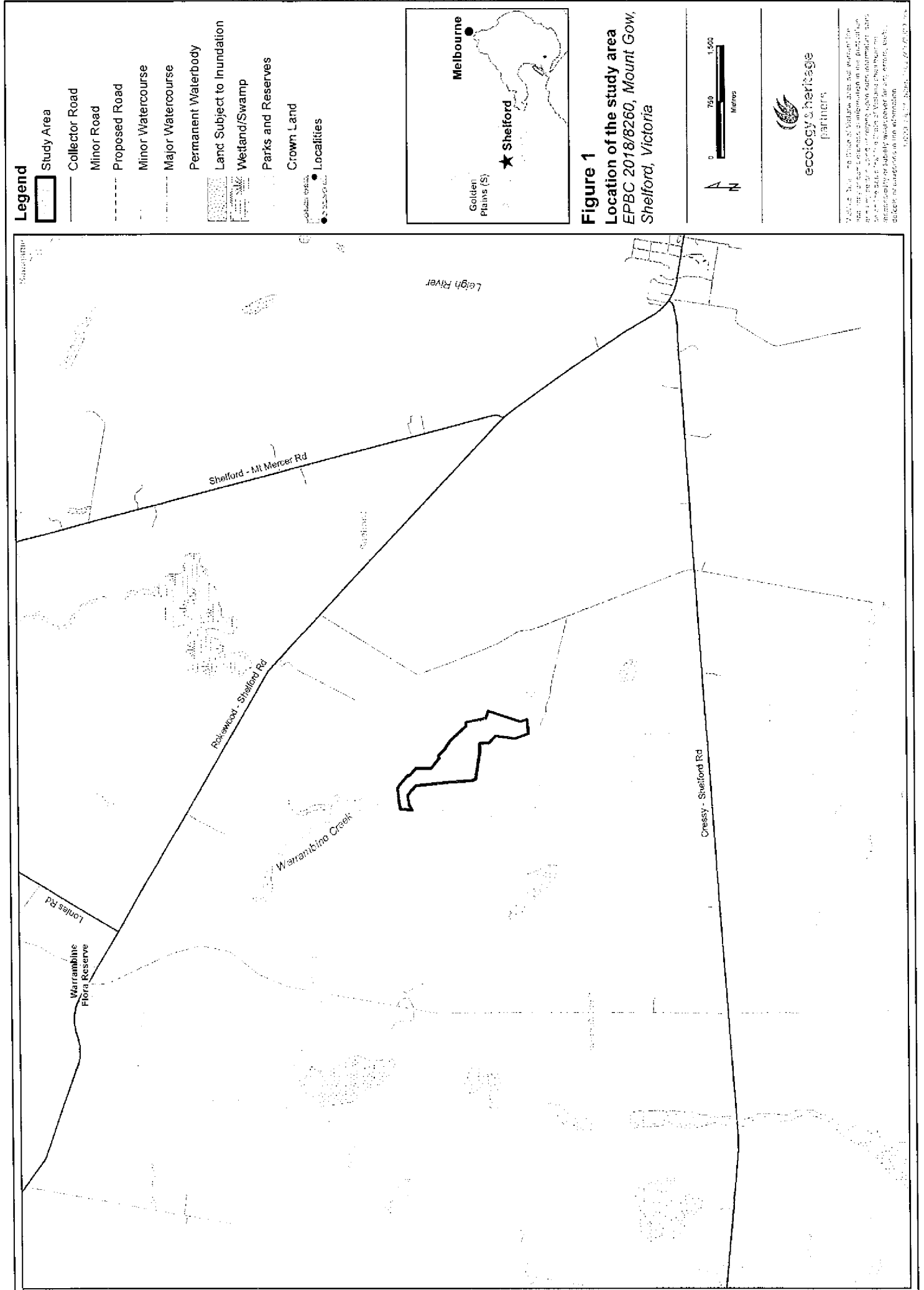
The offset site contains the required 3.45 hectares of NTGVVP and 26.5 hectares of Golden Sun Moth habitat to offset the removal of each matter of National Environmental Significance at the impact site.



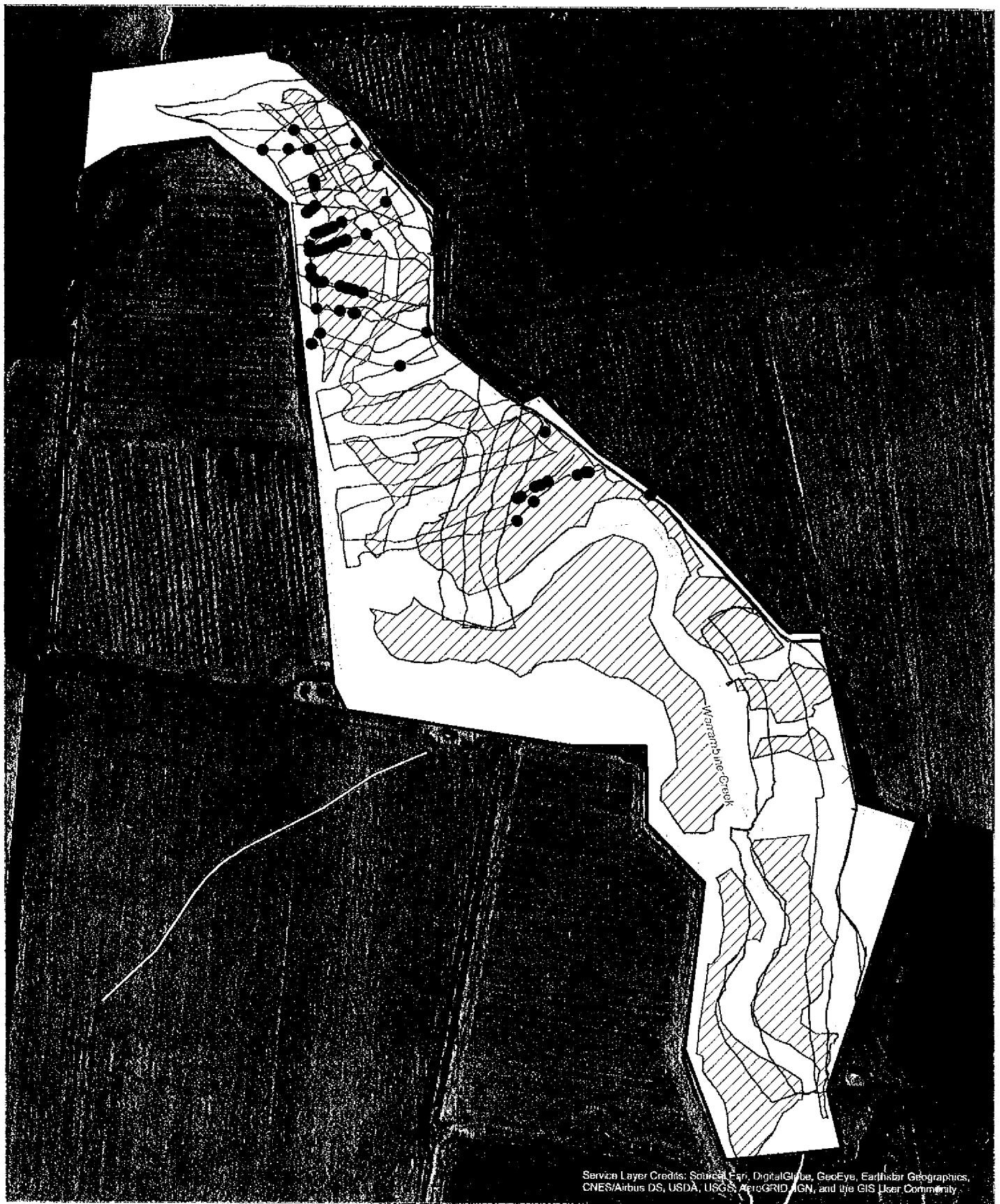
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- DSEWPC 2011. Nationally Threatened Ecological Communities of the Victorian Volcanic Plain: Natural Temperate Grassland and Grassy Eucalypt Woodland. Department of Sustainability, Environment, Water, Population and Communities, Canberra.
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- Ecology and Heritage Partners 2020. Preliminary Documentation: Parwan to Melton Recycled Water Pipeline (EPBC 2018/8260). Prepared for CH2M Beca (on behalf of Western Water).



Warrambine Flora Reserve is a State Reserve for the protection of native vegetation and is included in the list of State Reserves in the State of Victoria. The Reserve is located in the Shire of Warrambine, Victoria. The Reserve is situated on the eastern bank of the Warrambine River, approximately 100 km north-west of Melbourne. The Reserve is managed by the Shire of Warrambine. The Reserve is a State Reserve for the protection of native vegetation and is included in the list of State Reserves in the State of Victoria.

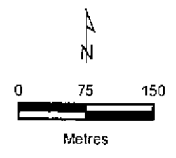
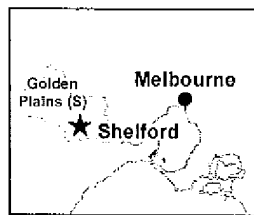


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**Figure 2**  
**Ecological features**  
*Matters of National Environmental Significance recorded at Mount Gow, Shelford, Victoria*



- Legend**
- Study Area
  - Golden Sun Moth records (9/12/2019)
  - Golden Sun Moth records (16/12/2019)
  - Survey tracks (9/12/2019)
  - Survey tracks (16/12/2019)
  - Golden Sun Moth habitat
  - Natural Temperate Grassland of the Victorian Volcanic Plain



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**Appendix 1 – Flora List**

**Legend:**

\* Listed as a noxious weed under the CaLP Act;

w Weed of National Significance;

**Table A1.1.** Flora recorded within the study area

Scientific Name	Common Name	Classification
<b>INDIGENOUS SPECIES</b>		
<i>Alternanthera denticulata</i>	Lesser Joyweed	-
<i>Anthosachne scabra</i>	Common Wheat-grass	-
<i>Austrostipa</i> spp.	Spear-grass	-
<i>Convolvulus</i> sp.	Pink Bindweed	-
<i>Eryngium ovinum</i>	Blue Devil	-
<i>Eryngium vesiculosum</i>	Prickfoot	-
<i>Geranium</i> sp.	Crane's Bill	-
<i>Glycine clandestina</i>	Twining Glycine	-
<i>Oxalis perennans</i>	Grassland Wood-sorrel	-
<i>Plantago gaudichaudii</i>	Narrow Plantain	-
<i>Poa labillardieri</i>	Common Tussock-grass	-
<i>Rytidosperma</i> spp.	Wallaby-grass	-
<i>Tricoryne elatior</i>	Yellow Rush lily	-
<i>Walenbergia luteola</i>	Bronze Bluebell	-
<b>NON-INDIGENOUS OR INTRODUCED SPECIES</b>		
<i>Acetosella vulgaris</i>	Sheep Sorrel	-
<i>Avena fatua</i>	Wild Oat	-
<i>Cirsium vulgare</i>	Spear Thistle	*
<i>Hordeum</i> spp.	Barley Grass	-
<i>Hypochaeris radicata</i>	Cat's-ear	-
<i>Lycium ferocissimum</i>	African Box-thorn	w*
<i>Nasseila trichotoma</i>	Serrated Tussock	w*
<i>Phalaris aquatica</i>	Toowoomba Canary-grass	*
<i>Romulea rosea</i>	Onion Weed	-
<i>Vulpia</i> spp.	Rat-tail Fescue	-



## Appendix 2 – Habitat Hectare Assessment

**Table A2.1.** Habitat Hectare Table for patches of Plains Grassland within the offset area.

Vegetation Zone		PG <sub>1</sub>	PG <sub>2</sub>	PG <sub>3</sub>
Bioregion		Victorian_Volcanic_Plain	Victorian_Volcanic_Plain	Victorian_Volcanic_Plain
EVC / Tree		Plains Grassland (Heavier Soils)	Plains Grassland (Heavier Soils)	Plains Grassland (Heavier Soils)
EVC Number		132_61	132_61	132_61
EVC Conservation Status		Endangered	Endangered	Endangered
Large Old Trees /10		na	na	na
Canopy Cover /5		na	na	na
Under storey /25		15	10	10
Lack of Weeds /15		6	4	2
Patch Recruitment /10		6	6	3
Condition Organic Matter /5		5	4	4
Logs /5		na	na	na
Treeless EVC Multiplier		1.36	1.36	1.36
Subtotal =		43.52	32.64	25.84
Landscape Value /25		16	16	16
Habitat Points /100		60	49	42
<b>Total</b>		<b>100.0</b>	<b>97.0</b>	<b>83.0</b>



**SCHEDULE 3: COMPLIANCE AND PAYMENT CONDITIONS**

1. The conditions in this Schedule 3 shall apply until the expiration of the Offset Management Plan.
2. Before the Trust will be obliged to make any payment to the Owner, the Owner must reasonably satisfy the Trust as to its compliance with the Covenant by:
  - a. providing all reports as to the progress of implementing the Offset Management Plan, in accordance with the Covenant;
  - b. responding to any other reasonable requests by the Trust for information relating to the Owner's compliance with the Covenant; and
  - c. allowing the Trust and any person it nominates to enter the Land to carry out site inspections at any reasonable time upon provision of reasonable notice to the Owner.
3. If satisfied that the Owner has implemented the Offset Management Plan for a particular year and otherwise complied with this Covenant, the Trust must make payments in accordance with Schedule 4 to the Owner for the relevant year.
4. If, for any of the reasons described in clause 11.1.2 of the Covenant (acts out of the control of the Owner), native vegetation within the Conservation Tier is damaged or destroyed, or the completion of management actions required by the Offset Management Plan is delayed:
  - a. the Owner must:
    - i. immediately advise the Trust in writing, describing the extent of the affected area; and
    - ii. to the extent that it is reasonably practicable, and to the reasonable satisfaction of the Trust:
      - A. complete the outstanding management actions as soon as possible;
      - B. make best endeavours to assist the regeneration of the affected area; and
      - C. continue to manage the affected area for conservation purposes and consistently with the Covenant Objectives; and
  - b. provided that the Owner has complied with clause 4.a of this Schedule 3, the Trust agrees that it will not withhold any payment for the relevant year.
5. Subject to clause 4 of this Schedule 3, if the Trust believes, acting reasonably, that the Owner has failed to comply with the Covenant, the Trust may withhold any payment to the Owner until the relevant requirement has been complied with to the Trust's reasonable satisfaction.
  - a. Where a payment has been withheld, the Trust must provide the Owner with reasonable particulars describing what must be done before a payment will be made.
  - b. If 30 days have passed since the Trust provided reasonable particulars, and the Owner continues to fail to comply with the Covenant, the Trust or its agents may enter the Land to undertake the necessary conservation work, or undertake other actions off the Land with a view to rectifying the breach.

- c. The Trust may recover the costs incurred pursuant to sub-clause 5.b of this Schedule 3 (which costs may include staff wages and disbursements) by either, at its sole option:
    - i. providing an account of costs to the Owner, which must be paid by the Owner immediately upon receipt; or
    - ii. deducting the costs from the amount(s) payable to the Owner pursuant to Schedule 4 .
  - d. The costs incurred pursuant to sub-clause 5.b of this Schedule 3 shall be capable of being recovered by the Trust in any court or competent jurisdiction as a civil debt recovered summarily.
  - e. If the Owner fails to comply with the Covenant for two years in succession, moneys held by the Trust may be forfeited and the Trust shall be entitled to deal with those moneys for the purposes of funding a substitute offset, through the purchase of Biodiversity Credits or other conservation works.
  - f. The Trust's rights in this clause 5 of this Schedule 3 are granted in addition to any rights of remedy provided in the operative provisions of the Covenant.
6. Any money held by the Trust for the purpose of making payments to the Owner will be deposited in an interest bearing account. The Trust will pay the Owner interest earned on the moneys, less any costs.
7. The parties consent to the Trust issuing a Recipient Created Tax Invoice (as defined in A New Tax System (Goods and Services Tax) Act 1999 (Cth)) in relation to any supply made in connection with the Covenant, where the Trust is willing to do so, but acknowledge that the Trust shall not be obliged to issue a Recipient Created Tax Invoice.

**SCHEDULE 4: PAYMENT SCHEDULE TO THE OWNER**

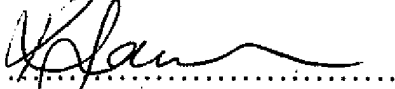
<b>Date</b>	<b>Payment to Owner by the Trust (Ex GST)</b>
Initial payment on registration of the Covenant (Initial Payment)	25% of total (\$90,000.00)
At the first anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$36,000.00)
At the second anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$18,000.00)
At the third anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$36,000.00)
At the fourth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$36,000.00)
At the fifth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$18,000.00)
At the sixth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$18,000.00)
At the seventh anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$36,000.00)
At the eighth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$18,000.00)
At the ninth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$18,000.00)
At the tenth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$36,000.00)
<b>Total payment:</b>	<b>\$360,000.00 (Ex GST)</b>


**SCHEDULE 5: MORTGAGEE'S CONSENT**

**National Australia Bank [ACN 004 044 937]** as Mortgagee of registered mortgage No. AV729324E consents to the Owner entering into this Covenant and in the event that the Mortgagee becomes Mortgagee-in-possession, agrees to be bound by the covenants and conditions of this Covenant.

Executed by National Australia Bank [ACN 004 044 937] (in its capacity as agent) by its attorney under Power of Attorney dated:

In the presence of:

  
.....  
Signature of witness

  
.....  
Attorney name and tier  
STUART CLYDE POSTLETHWAITE  
TIER 3.

KASEY LEE JACOBS.  
.....  
Name of witness (print)

By executing this agreement the attorney states that the attorney has received no notice of revocation of the power of attorney

## **Appendix G: Cressy Re-approval Letter**

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



Ms Claire Ranyard  
Senior Consultant (Botany)  
Ecology and Heritage Partners  
292 Mt Alexander Road  
ASCOT VALE VIC 3032

Dear Ms Ranyard

**EPBC 2018/8260: Parwan to Melton Pipeline, Victoria – Offset Management Plan**

Thank you for your email dated 13 May 2022 to the Department of the Agriculture, Water and the Environment, seeking approval of the Offset Management Plan, in accordance with Condition 6 of the above project under the *Environment Protection and Biodiversity Conservation Act 1999*.

Officers of the Department have advised me on the Offset Management Plan and the requirements of the conditions of the approval for this project. On this basis, and as a delegate of the Minister for the Environment, I have decided to approve the *Offset Management Plan: 6060 Hamilton Highway, Cressy, Victoria (EPBC 2018/8260), Version 3, 13 May 2022*. This plan must now be implemented.

As you are aware, the Department has an active monitoring program which includes monitoring inspections, desk top document reviews and audits. Please ensure that you maintain accurate records of all activities associated with, or relevant to, the conditions of approval so that they can be made available to the Department on request.

Should you require any further information please contact Tony Dowd on (02) 6274 1769 or [PostApproval@awe.gov.au](mailto:PostApproval@awe.gov.au).

Yours sincerely

Kim Farrant  
Assistant Secretary  
Assessments (Vic, Tas) and Post Approvals Branch  
Environment Approvals Division

20 June 2022

Cc: Mr Warren Price, Capital Delivery Manager, Western Region Water Corporation

## Appendix H: Cressy Covenant Registration

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

**From:** [Stephen Campbell](#)  
**To:** [Audit](#)  
**Subject:** RE: EPBC 2018/8260 - Independent Auditor Report - Parwan to Melton Pipeline, Victoria [SEC=OFFICIAL]  
**Date:** Wednesday, 12 June 2024 7:25:00 AM  
**Attachments:** [image008.png](#)  
[RE\\_Cressy\\_Covenant\\_Registration.msg](#)  
[VIC\\_Register\\_Search\\_Statement\\_11971512\\_App\\_Number\\_72994979.pdf.pdf](#)

---

Hi Keith,

With regards Condition 3, please see attached email correspondence and updated title from TFN confirming that the covenant for the Cressy Offset Site has now been registered.

If you require any further information, please let me know.

Kind Regards.

**Stephen Campbell**  
Western Irrigation Network (WIN) Engineering Co-Ordinator

**M** 0437 098 971  
[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024




[gww.com.au](http://gww.com.au)

---

**From:** Audit <Audit@dceew.gov.au>  
**Sent:** Thursday, June 6, 2024 4:05 PM  
**To:** Stephen Campbell <Stephen.Campbell@gww.com.au>  
**Cc:** Audit <Audit@dceew.gov.au>  
**Subject:** EPBC 2018/8260 - Independent Auditor Report - Parwan to Melton Pipeline, Victoria [SEC=OFFICIAL]

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This message came from outside your organization.  
Please click the Report Suspicious button if you weren't expecting this email or think it may be malicious.

[Report Suspicious](#) 

Hi Stephen,

Please see attached letter regarding the Independent Audit report for Parwan to Melton Pipeline, Victoria.

Kind regards



**Keith Horwood**

Environmental Audit Section

Compliance and Enforcement Branch | Environmental Permitting and Compliance Division  
Ngunnawal and Ngambri Country, John Gorton Building, King Edward Terrace, Parkes ACT 2600  
Australia

Department of Climate Change, Energy, the Environment and Water

P | E [Keith.horwood@dcceew.gov.au](mailto:Keith.horwood@dcceew.gov.au)

DCCEEW.gov.au ABN 63 573 932 849



**Acknowledgement of Country**

Our department recognises the First Peoples of this nation and their ongoing connection to culture and country. We acknowledge Aboriginal and Torres Strait Islander Peoples as the Traditional Owners, Custodians and Lore Keepers of the world's oldest living culture and pay respects to their Elders past, present and emerging.

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The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 11971 FOLIO 512

Security no : 124115352093T  
Produced 28/05/2024 04:21 PM

LAND DESCRIPTION

-----  
Lots 4 and 5 on Plan of Subdivision 007127.  
PARENT TITLES :  
Volume 05542 Folio 294          Volume 09567 Folio 722  
Created by instrument AQ871806G 28/03/2018

REGISTERED PROPRIETOR

-----  
Estate Fee Simple  
Sole Proprietor  
R D GRIFFITHS TRADING PTY LTD of 1372 ROKEWOOD-SHELFORD ROAD SHELFORD VIC  
3329  
AR504214C 01/10/2018

ENCUMBRANCES, CAVEATS AND NOTICES

-----  
MORTGAGE AR504215A 01/10/2018  
RABOBANK AUSTRALIA LTD

COVENANT as to part Section 3A Victorian Conservation Trust Act 1972  
AT790819V 20/11/2020

COVENANT as to part Section 3A Victorian Conservation Trust Act 1972  
as to Lot 5 on Plan of Subdivision 007127.  
AX893373C 10/04/2024

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

AGREEMENT Section 173 Planning and Environment Act 1987  
AW347179F 07/12/2022

DIAGRAM LOCATION

-----  
SEE LP007127 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

-----  
NUMBER    STATUS    DATE  
AX893373C (E)                          COVENANT    Registered    18/04/2024

DOCUMENT END

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# Department of Environment, Land, Water & Planning

## Electronic Instrument Statement

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Produced 28/05/2024 04:31:43 PM

Status	Registered	Dealing Number	AX893373C
Date and Time Lodged	10/04/2024 05:32:04 PM		

### Lodger Details

Lodger Code	25283S
Name	TRUST FOR NATURE (VICTORIA)
Address	
Lodger Box	
Phone	
Email	
Reference	GPN8180/INT13756 RD

## APPLICATION TO RECORD AN INSTRUMENT

Jurisdiction	VICTORIA
--------------	----------

### Privacy Collection Statement

The information in this form is collected under statutory authority and used for the purpose of maintaining publicly searchable registers and indexes.

### Estate and/or Interest

FEE SIMPLE

Land Title Reference	Part Land Affected?	Land Description
11971/512	Y	5 LP007127

### Instrument and/or legislation

RECORD - COVENANT  
Victorian Conservation Trust Act - section 3A

### Applicant(s)

Tenancy (inc. share)	None
Name	TRUST FOR NATURE (VICTORIA)
Address	
Floor Type	LEVEL
Floor Number	5
Street Number	379
Street Name	COLLINS
Street Type	STREET
Locality	MELBOURNE



# Department of Environment, Land, Water & Planning

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## Electronic Instrument Statement

State VIC  
Postcode 3000

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### Additional Details

Refer Image Instrument

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The applicant requests the recording of this Instrument in the Register.

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### Execution

1. The Certifier has retained the evidence supporting this Registry Instrument or Document.
2. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant law and any Prescribed Requirement.

Executed on behalf of	TRUST FOR NATURE (VICTORIA)
Signer Name	TARNI PERKAL
Signer Organisation	TRUST FOR NATURE (VICTORIA)
Signer Role	AUTHORISED SIGNATORY
Execution Date	10 APRIL 2024

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### File Notes:

NIL

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This is a representation of the digitally signed Electronic Instrument or Document certified by Land Use Victoria.

Statement End.



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Document Assembled	

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TRUST FOR  
NATURE

## Deed of Covenant for the Conservation of Land

R D Griffiths Trading Pty Ltd

ACN 627 675 094

Trust for Nature (Victoria)

ABN 60 292 993 543

Property Address: Lot 5 on Plan of Subdivision 007127

6060 Hamilton Highway, Cressy VIC 3322

---

**Note:** This Deed of Covenant includes land management obligations to protect and improve native vegetation for the purpose of generating Commonwealth Biodiversity Credits.

**Note:** Owners are obliged under this Covenant to promptly notify the Trust of any change in ownership or another encumbrance relating to the Land or any lease or other interest in Land which the Owners grant to any other person.

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[www.trustfornature.org.au](http://www.trustfornature.org.au)

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## Parties

**R D Griffiths Trading Pty Ltd** [ACN 627 675 094] (**Owner**) of 194-196 High Street, Belmont VIC 3216  
**Trust for Nature (Victoria)** [ABN 60 292 993 543] (**Trust**) of 5/379 Collins St, Melbourne 3000

## Recitals

- A The Owner is the registered proprietor of the land described in Schedule 1 and desires to enter into a covenant with the Trust under section 3A of the Act and which runs with the Land empowering the Trust to enforce the covenant against the Owner.
- B The Trust and the Owner have agreed to enter into this Covenant, being satisfied that the Land possesses the appropriate characteristics and acknowledging that the Part'es' aims and purposes are the conservation of the Land in accordance with the Covenant Objectives.
- C Covenant Objectives are the conservation of the Land for public scientific and public educational purposes including, as relevant to the Land its:
- (a) native plants and wildlife;
  - (b) natural interest or beauty;
  - (c) ecological significance;
  - (d) historical interest;
- D The Trust and the Owner recognise that the intent of this Covenant is to contribute to the National Reserve System, under the Protected Area criteria established by the International Union for Conservation of Nature (IUCN 2008).



## 1. Definitions

In this Covenant the following definitions apply:

**Act** means the *Victorian Conservation Trust Act 1972* (Vic).

**Conservation Tier** means that part of the land designated as Conservation Tier within Schedule 1 for the purpose of conserving areas which are ecologically significant or areas of importance to the conservation of wildlife or native plants and to be protected and managed for the purposes of generating Commonwealth Biodiversity Credits.

**Covenant** means this document or any schedule or annexure to it.

**Commonwealth Biodiversity Credit** means the credits created on the Land designated as Conservation Tier through an offset package approved by the Commonwealth government in accordance with the Environmental Protection and Biodiversity Conservation Act 1999 (Cth).

**Covenant Management Plan** means the plan mutually agreed to and signed by the Owner and the Trust for the management of the Land, as amended from time to time and which forms part of this Covenant once signed.

**Covenant Objectives** means the aims and purposes of this Covenant as outlined in Recital C.

**Dwelling** means any habitable structure, including but not limited to a house, permanent caravan, dependent persons' unit or holiday accommodation.

**Exploration** means exploration for minerals and includes:

- i. conducting geological, geophysical and geochemical surveys; and
- ii. drilling; and
- iii. taking samples for the purposes of chemical or other analysis; and
- iv. extracting minerals from the Land, other than for the purpose of producing them commercially; and
- v. in relation to an exploration licence, anything else (except mining) that is specified in the licence.

**Land** means the land shown hatched on the plan attached at Schedule 1 being part of the land more particularly described in Certificate of Title Volume 11971 Folio 512, and being part of lot 5 on plan of subdivision LP007127.

**Letter of Approval** means a letter signed by the Trust providing approval for the Owner to undertake specific activities on the Land otherwise prohibited under this Covenant.

**Licence** means an exploration licence, mining licence, a prospecting licence or a retention licence as set out in the *Minerals Resources (Sustainable Development) Act 1990*.

**Mining** means extracting minerals from the Land for the purpose of producing them commercially and includes processing and treating ore.

**Minister** means the Minister of the Crown administering the Act.

**Mortgagee** means the person or persons registered or entitled from time to time to be registered by the Registrar of Titles as Mortgagee of the Land or any part of it.

**Offset Management Plan** means a plan (in Schedule 2 of this Covenant) that outlines management obligations to improve the extent and quality of biodiversity on the Land for the purpose of generating Commonwealth Biodiversity Credits.

**Owner** means the person or persons registered or entitled from time to time to be registered by the Registrar of Titles as proprietor or proprietors of an estate in fee simple of the Land or any part of it, including any Mortgagee-in-possession and all future registered proprietors of the Land.

**Parties** means the parties to this Covenant.

**Permitted Defendable Space and Fire Protection Works** means vegetation permitted to be removed under the applicable planning scheme (as amended from time to time), whether under a planning permit or exemption in the planning scheme, for bushfire protection purposes including for the creation of defendable space from an existing or new building or other fire protection works.

**Subdivision** means the subdivision as defined with the *Subdivision Act 1988* (Vic) (or its successor) or any consolidation of land or boundary realignment.

**Trust** means Trust for Nature (Victoria) as established under section 2 of the Act.

## 2. Interpretation

In the interpretation of this Covenant, the following provisions apply unless the context otherwise requires:

- 2.1. Headings are inserted for convenience only and do not affect the interpretation of this Covenant.
- 2.2. A reference in this Covenant to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.
- 2.3. A reference in this Covenant to any document or agreement is to that document or agreement as amended, novated, supplemented or replaced.
- 2.4. A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Covenant.
- 2.5. An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- 2.6. Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- 2.7. A word which indicates the singular also indicates the plural, a word which indicates the plural also indicates the singular, and a reference to any gender also indicates the other genders.
- 2.8. A reference to the word 'include' or 'including' is to be interpreted without limitation.
- 2.9. Any schedules and attachments form part of this Covenant.

### **3. Deed of Covenant**

- 3.1. The Trust and the Owner agree without limiting or restricting their respective powers to enter into this Covenant and, insofar as it can be so treated, this Covenant is made pursuant to section 3A of the Act.

### **4. Registration**

- 4.1. The Owner consents to the Trust making application to the Registrar of Titles to make a recording of this Covenant in the Register on the Certificate of Title of the Land in accordance with section 3A(10) of the Act and do all things necessary to enable the Trust to do so including signing any further agreement, acknowledgement or document or procuring the consent to this Covenant of any Mortgagee or caveator to enable the recording to be made in the Register under that section.

### **5. Effect of Agreement**

- 5.1. This Covenant shall be deemed to come into force and effect from the date of execution of this Covenant and the benefit and burden of this Covenant shall be annexed to the Land.
- 5.2. The obligations of the Owner under this Covenant will take effect as separate and severable covenants which shall be annexed to and run at law and equity with the Land to bind the Owner and each successor, assignee or transferee of the Owner, the registered proprietor, the mortgagee in possession and the beneficial owner for the time being of the Land.

### **6. Owner Covenants**

The Owner covenants at all times to observe and perform the following obligations and duties in relation to the Land:

#### ***General***

- 6.1. To use and manage the Land in a manner, which in the reasonable opinion of the Trust, is consistent with the Covenant Objectives.
- 6.2. Not to do any act or thing upon the Land, which in the reasonable opinion of the Trust, is prejudicial to its conservation or the Covenant Objectives.

#### ***Development and works***

- 6.3. In particular, on and with respect to the Land, the Owner must not permit, cause or allow to occur unless approved subject to clause 10;
- 6.3.1. the Subdivision of the Land;
- 6.3.2. the construction or placement of any structure or Dwelling on the Land.

- 6.3.3. the erection of any transmission lines or other services or works (unless required by law);
- 6.3.4. the construction of any dams;
- 6.3.5. erect or display any notice, hoarding or advertising matter save for identification signs and interpretive signs.

***Use and management***

- 6.4. In particular, on and with respect to the Conservation Tier the Owner must not permit, cause or allow to occur, unless otherwise approved by the Trust in accordance with clause 10:
  - 6.4.1. the removal or destruction of any local indigenous trees, plants or grasses, dead or alive, or the planting of any flora other than local indigenous flora;
  - 6.4.2. any act or omission which may adversely affect any local indigenous flora or any indigenous fauna or their related habitats;
  - 6.4.3. (unless required by law) any deterioration in the natural state or in the flow, supply, quantity or quality of any body of water;
  - 6.4.4. livestock to enter save for livestock entering for the purpose of grazing consistent with the Covenant Objectives and pursuant to the Covenant Management Plan or Offset Management Plan;
  - 6.4.5. the introduction of any non-indigenous fauna, or any cat, dog or other domestic animals save for working dogs to assist with management of livestock;
  - 6.4.6. the removal, introduction or disturbance of any soil, rocks, or other minerals;
  - 6.4.7. the operation of any trade, industry or business;
  - 6.4.8. the recreational use of trail bikes or any vehicles;
  - 6.4.9. the accumulation of rubbish or storage of any materials other than materials being used or intended to be used by the Owner on the Land;
  - 6.4.10. the removal of any timber including fallen timber;
  - 6.4.11. the establishment or spread of pest animals and pest plants which shall be controlled and, as far as possible, eliminated in accordance with section 20 of the *Catchment and Land Protection Act 1994 (Vic)* (or its successor);
  - 6.4.12. the establishment or spread of high threat pest animals and plants identified by the Trust or in the Offset Management Plan in Schedule 2, which shall be controlled and, as far as possible, eliminated;
  - 6.4.13. the application of fertilizer; and
  - 6.4.14. any other activities not consistent with the Covenant Objectives.

### ***Mining and Exploration***

- 6.5. In relation to any minerals exploration or extraction activity or production of gas, petroleum or other substance proposed on or with respect to the Land, the Owner must:
  - 6.5.1. not to apply for a Licence;
  - 6.5.2. not permit any Mining or Exploration or production of gas, petroleum or other substance proposed on or with respect to the Land, unless required by law;
  - 6.5.3. notify the Trust of any proposed Mining or Exploration or production of gas, petroleum or other substance proposed on or with respect to; and
  - 6.5.4. not consent to any Mining or Exploration or production of gas, petroleum or other substance proposed on or with respect to unless approved by the Trust in writing.

## **7. Further Covenants**

- 7.1. The Owner further covenants and agrees:
  - 7.1.1. to make reasonable efforts to remove pests and weeds from the Land and to prevent their future invasion;
  - 7.1.2. to make reasonable efforts, if necessary, to erect fences which allow free movement of indigenous fauna between adjacent grazing areas and the Land, and to maintain fences and gates in good stock proof order and condition; and
  - 7.1.3. to permit officers, agents or nominees of the Trust acting on behalf of the Trust provided prior notice of at least seven days has been given, to enter the Land in order to monitor and assess its condition, assess compliance with this deed or to prepare the Covenant Management Plan pursuant to clause 9.

### ***Lease or Licence***

- 7.2. The Owner further covenants and agrees upon resolving to lease or licence the Land or any portion of the Land to:
  - 7.2.1. include within the lease or licence provided to any potential lessee or licensee of the Land a copy of this Covenant; and
  - 7.2.2. in writing, procure the agreement of the tenant or licensee to perform and observe the duties and obligations as assumed by the Owner pursuant to this Covenant; and
  - 7.2.3. promptly notify the Trust in writing of any lease or licence entered into for the Land or any portion of the Land.

### ***Sale***

- 7.3. The Owner further covenants and agrees upon entering into any contract to sell the Land or any portion of the Land to:
  - 7.3.1. include within the contract provided to any potential purchaser of the Land a copy of this Covenant; and

- 7.3.2. promptly notify the Trust in writing that the Owner has entered into a contract to sell the Land or any portion of the Land.

#### ***Other Interest***

- 7.4. The Owner further covenants and agrees before granting or entering into any other contract or disposing of or creating any other interest in the Land or any portion of the Land to:
  - 7.4.1. include within the contract or provide to the person being granted an interest in the Land or any portion of the Land, a copy of this Covenant; and
  - 7.4.2. in writing, procure the agreement of the person being granted an interest in the Land to perform and observe the duties and obligations as assumed by the Owner pursuant to this Covenant; and
  - 7.4.3. promptly notify the Trust in writing that the Owner has granted an interest in the Land or any portion of the Land.

#### ***Mortgagee consent***

- 7.5. Without limiting clause 4, the Owner further covenants and agrees that the Owner must obtain Mortgagee consent to the registration of this Covenant on the Certificate of Title to the Land and procure that the Mortgagee signs such documents and does such things as is otherwise necessary to give effect to that consent. The Owner indemnifies the Trust for any costs, loss, damage or expense arising from or in connection with any failure by the Owner to comply with this clause 7.5.

### **8. Offset Management Plan**

- 8.1. The Owner must manage the Conservation Tier in accordance with the Offset Management Plan contained in Schedule 2 and the compliance and payment conditions listed in Schedule 3.
- 8.2. The Offset Management Plan for the Conservation Tier will expire 10 years from the date the Offset Management Plan commenced pursuant to the Section 173 Agreement registered on title, or such later date when the management obligations in the Offset Management Plan have been completed to the Trust's reasonable satisfaction.
- 8.3. The Owner must comply with reasonable requests from the Trust, to the reasonable satisfaction of the Trust, on the performance of management obligations outlined in the Offset Management Plan.
- 8.4. The Owner must prepare an annual written report demonstrating completion of management actions for the preceding year.
- 8.5. If there is any inconsistency between the terms of this Covenant and the provisions of the Offset Management Plan (including any amendment to such Plan) then the provisions of the Offset Management Plan shall prevail.
- 8.6. Upon expiry of the Offset Management Plan, the Conservation Tier will remain subject to the provisions of this Covenant including any obligation to manage the Land in accordance with a Covenant Management Plan.

## **9. Covenant Management Plan**

- 9.1. As soon as practicable upon the expiry of the Offset Management Plan, the Covenant Management Plan must be prepared by the Trust and the Owner to the satisfaction of the Trust.
- 9.2. Upon expiry of the Offset Management Plan the Owner must manage the Conservation Tier in accordance with the Covenant Management Plan.
- 9.3. The Covenant Management Plan may be varied or amended by mutual consent in writing of both Parties, unless otherwise agreed.
- 9.4. The Parties agree that if there is any inconsistency between the terms of this Covenant and the provisions of the Covenant Management Plan, then the terms of this Covenant shall prevail.
- 9.5. The Parties agree that once mutually agreed to and signed by both Parties, the Covenant Management Plan forms a part of this Covenant and is enforceable as if it were part of the Covenant.
- 9.6. If the Parties are unable to agree on the content and actions of the Covenant Management Plan then the dispute resolution process set out in clause 13 must be followed.
- 9.7. The Owner must do all things necessary to give effect to the terms of this Covenant and the Covenant Management Plan.

## **10. Letter of Approval**

- 10.1. The Parties agree that the Trust may provide prior written consent for the Owner to undertake any action not permitted under clause 6 on the following basis:
  - 10.1.1. the Owner must obtain the consent of the Trust prior to undertaking any actions or works;
  - 10.1.2. the consent must be in the form of a Letter of Approval issued by the Trust;
  - 10.1.3. the Trust may place conditions on the grant of consent which must be provided to the Owner in writing; and
  - 10.1.4. the consent will not be unreasonably withheld, provided that the Trust is satisfied that the proposal will not prejudice the Covenant Objectives.

## **11. Acknowledgements by the Trust**

- 11.1. The Trust acknowledges that compliance with clause 6 and the restrictions set out in this Covenant may be treated as waived to the extent necessary for:
  - 11.1.1. responsible fire protection (including any Permitted Defendable Space and Fire Protection Works), weed and pest control;
  - 11.1.2. acts outside the control of the Owner, including but not limited to:
    - (i) war;



- (ii) riot;
- (iii) insurrection;
- (iv) vandalism; and
- (v) natural disaster.

- 11.1.3. reasonable maintenance of fences, culverts, dams, bridges, watercourses, buildings, tracks, paths, roads and other services;
- 11.1.4. any act required under any law, rule or regulation of any government or governmental agency, executive or administrative order or act of general or particular application; and
- 11.1.5. the proper management of the Land as a protected environment for indigenous flora and fauna.

## **12. Default by the Owner**

- 12.1. Where the Trust believes the Owner has breached or failed to comply with any term of this Covenant relating to the Land, the Trust may issue a notice in writing to the Owner (“Notice”) that:
  - 12.1.1. states the notice is a notice under this section;
  - 12.1.2. specifies the nature of the breach;
  - 12.1.3. requests rectification by a nominated date; and
  - 12.1.4. specifies the actions required to remedy the non-compliance with the terms of this Covenant.
- 12.2. If after 30 days from the date of the Notice the Trust believes that there has been an inadequate response by the Owner to the Notice:
  - 12.2.1. the Trust or its agents may enter the Land to undertake the necessary conservation work;
  - 12.2.2. the Owner must, immediately upon receipt of costs from the Trust, reimburse the Trust for the costs incurred; and
  - 12.2.3. the costs in clause 12.2.2 shall be capable of being recovered by the Trust in any court or competent jurisdiction as a civil debt recovered summarily.
- 12.3. Where either of the Parties dispute the Notice, the dispute resolution provisions in clause 13 apply.

## **13. Dispute resolution**

### ***Meeting to attempt to resolve disputes***

- 13.1. If a dispute arises under this Covenant or concerning its subject matter, either Party may at any time give written notice to the other requesting that a meeting take place to seek to resolve the dispute. The nominated senior representatives of both Parties must meet within ten days of the notice and try to resolve the dispute in good faith.

Either Party may not unreasonably withdraw from attendance at the meeting.

#### ***Performance of obligations***

- 13.2. Despite the existence of a dispute, each Party must continue to perform its obligations under this Covenant.

#### ***Mediation***

- 13.3. If the Parties fail to resolve the dispute within 30 days of the meeting under sub-clause 13.1, a mediator must be appointed by the Parties. If the Parties cannot agree on a mediator, the matter will be referred to a mediator chosen by the chairman of the Victorian Chapter of the Institute of Arbitrators and Mediators, Australia, or his or her nominee, for mediation.
- 13.4. Despite the provisions of clause 12 and clause 13, where the Trust determines that the circumstances require immediate action to prevent damage to the conservation of the Land in accordance with the Covenant Objectives, it may pursue any other remedies available to it at law and in equity.
- 13.5. The costs of the mediator and any associated costs, must be met equally between the Parties.

### **14. Miscellaneous**

#### ***Entire agreement***

- 14.1. This Covenant contains everything the Parties have agreed in relation to the subject matter it deals with. No Party can rely on an earlier written document or anything said or done by or on behalf of another Party before this Covenant was executed.

#### ***Governing law and jurisdiction***

- 14.2. This Covenant is governed by the law of Victoria. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

#### ***Severability***

- 14.3. Each provision of this Covenant is individually severable. If any provision is or becomes illegal, unenforceable or invalid in any jurisdiction it is to be treated as being severed from this Covenant in the relevant jurisdiction, but the rest of this Covenant will not be affected. The legality, validity and enforceability of the provision in any other jurisdiction will not be affected.

#### ***Variations***

- 14.4. Any variations to this Covenant must be done in accordance with the provisions of the Act.

#### ***Waivers***

- 14.5. A waiver of any right, power or remedy under this Covenant must be in writing signed by the Party granting it. A waiver only affects the particular obligation or breach for which it is given. It is not an implied waiver of any other obligation or breach or an implied waiver of that obligation or breach on any other occasion.

- 14.6. The fact that a Party fails to do, or delays in doing, something the party is entitled to do under this Covenant does not amount to a waiver.

AX893373C

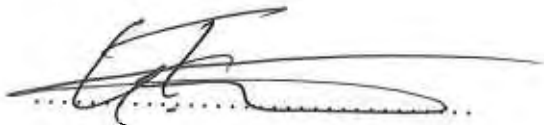
**Execution and date**

Executed as a deed.

Date:

~~16 Aug 23~~ 12 March 2024

Executed by R D Griffiths Trading Pty Ltd [ACN 627 675 094] by being signed by its authorised person(s) in accordance with section 127 of the Corporations Act 2001 (Cth);



Georgina Louise Taylor  
Director



James Allan Taylor  
Director and Company Secretary

The common seal of **Trust for Nature (Victoria)** was hereunto affixed by the authority of the Trustees in the presence of:

.....  
Signature of Trustee

.....  
Signature of Chief Executive Officer/Trustee

.....  
Name of Trustee (print)

.....  
Name of Chief Executive Officer/Trustee (print)

It is hereby certified that the approval of the Minister under sub-section 3A(8) of the Act has been obtained to this covenant (ref. schedule TNV.....).

.....  
Chief Executive Officer  
Trust for Nature (Victoria)

AX893373C

### Execution and date

Executed as a deed.

Date:

Executed by R D Griffiths Trading Pty Ltd [ACN 627 675 094] by being signed by its authorised person(s) in accordance with section 127 of the Corporations Act 2001 (Cth);

.....  
Georgina Louise Taylor  
Director

.....  
James Allan Taylor  
Director and Company Secretary

The common seal of **Trust for Nature (Victoria)** was hereunto affixed by the authority of the Trustees in the presence of:

.....  
Signature of Trustee

.....  
Signature of Chief Executive Officer/Trustee



*Andrew Deakin Brooks*  
.....  
Name of Trustee (print)

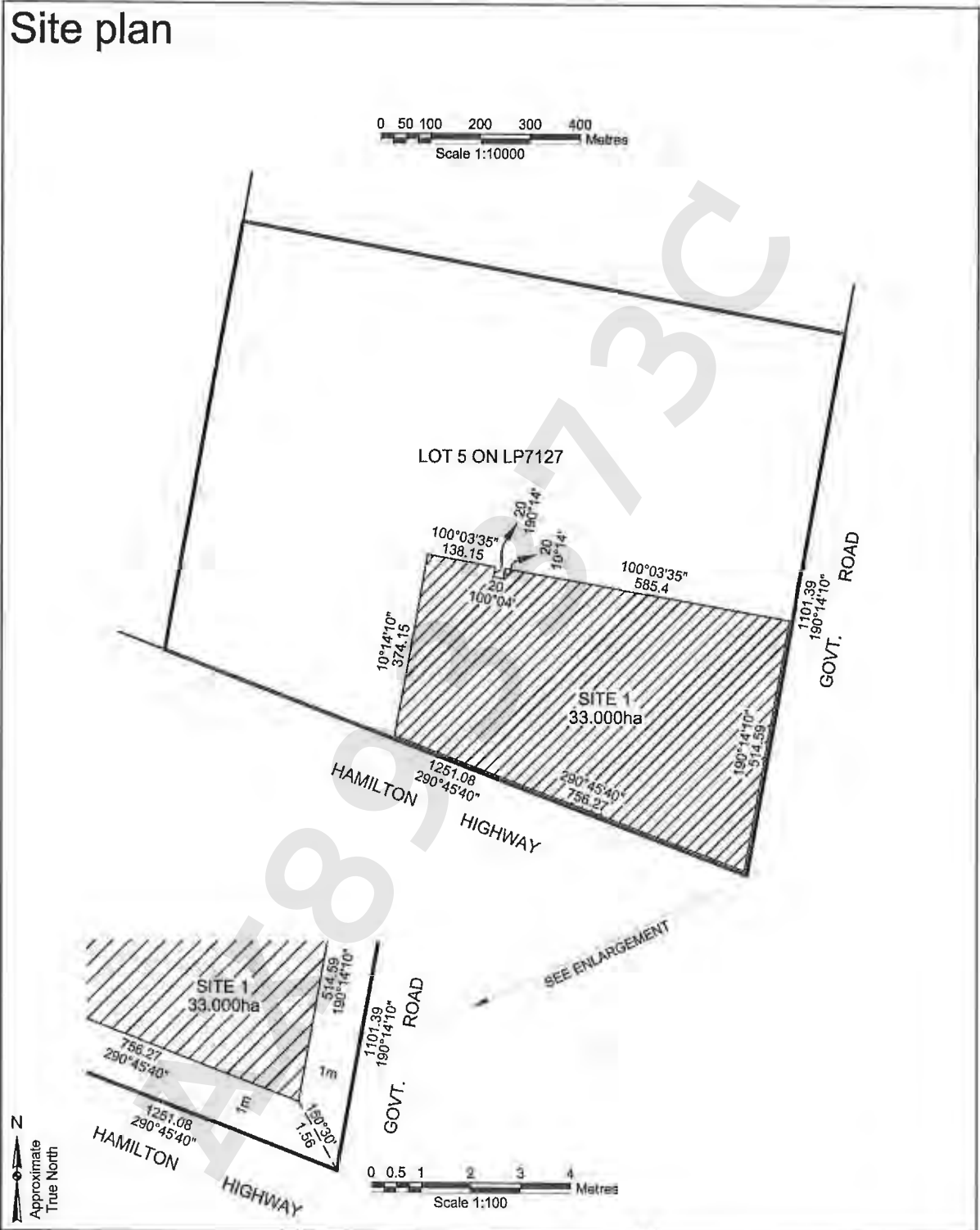
*Corinne Prooske*  
.....  
Name of Chief Executive Officer/Trustee (print)

It is hereby certified that the approval of the Minister under sub-section 3A(8) of the Act has been obtained to this covenant (ref. schedule TNV 322-186)

.....  
Chief Executive Officer  
Trust for Nature (Victoria)

**SCHEDULE 1: LAND**

**Site plan**



<b>PLAN FOR COVENANT PURPOSES</b>		PARISH OF YARIMA	
		TITLE REF: VOL. 11971 FOL. 512	
<b>Legend</b> Conservation Tier	Prepared by:	Ferguson Perry Surveying Pty Ltd 62 McLachlan Street Horsham, Victoria 3400	
	Date: 30/06/2021	T (03) 5382 2023 E admin@fergusonperry.com.au	
		PLAN REF: LP7127 (LOT 5)	
		SHEET 1 OF 1 SHEETS	REF: 21H0065

## SCHEDULE 2: OFFSET MANAGEMENT PLAN

AX893373C



# Offset Management Plan: 6060 Hamilton Highway, Cressy, Victoria (EPBC 2018/8260) – Version 3

CH2M Beca (on behalf of Greater Western Water)

May 2022



Ecology and Heritage Partners Pty Ltd

## DOCUMENT CONTROL

Assessment	EPBC 2018/8260: Offset Management Plan
Address	6060 Hamilton Highway, Cressy, Victoria
Project number	10223
Project manager	Claire Ranyard (Senior Botanist)
Report reviewer	Aaron Organ (Director – Principal Ecologist)
Mapping	Dr Monique Elsley (GIS Coordinator)
File name	10223_EHP_Parwan-Melton-Pipeline_CressyOMP_Version3_13052022
Client	CH2M Beca (on behalf of Greater Western Water)
Bioregion	Victorian Volcanic Plain
CMA	Corangamite
Council	Colac Otway Shire

Report versions	Comments	Comments updated by	Date submitted
Version 1	Include date of approval Client comments addressed and submitted to DAWE	JM, AO	19/03/2021
Version 2	Submitted to DAWE on 30 April 2021 and included in Approval Conditions dated 4 May 2021	JM, AO	30/04/2021
Version 3	Report updated based on landholder comments and to satisfy DAWE Approval Condition 6	CR	13/05/2022

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## GLOSSARY

Acronym	Description
Approval holder	means the persons to whom the approval is granted, or to whom the approval is transferred under section 145B of the EPBC Act (persons taking the action).
CaLP	<i>Catchment and Land Protection Act 1994</i>
CMA	Catchment Management Authority
DELWP	Victorian Department of Environment, Land, Water and Planning
DEWHA	(former) Commonwealth Department of Environment, Water, Heritage and the Arts
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DSEWPaC	(former) Commonwealth Department of Sustainability, Environment, Water Population and Communities.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
GSM	Golden Sun Moth
NES	National Environmental Significance
NTGVVP	Natural Temperate Grassland of the Victorian Volcanic Plain
OMP	Offset Management Plan
TFN	Trust for Nature

## DECLARATION OF ACCURACY

---

I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying this Management Plan (EPBC 2018/8260: Offset Management Plan: Parwan to Melton Pipeline, Victoria is complete, current and correct.
2. I am duly authorised to sign this declaration on behalf of the approval holder.
3. I am aware that:
  - a. Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.
  - b. Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) where the person knows the information or document is false or misleading.
  - c. The above offences are punishable on conviction by imprisonment, a fine or both.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Full name (please print)

\_\_\_\_\_  
Organisation (please  
print)

\_\_\_\_\_  
Date

## EXECUTIVE SUMMARY

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### Introduction

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed recycled water pipeline, Parwan to Melton, Victoria (EPBC 2018/8260).

The intention of this OMP is to detail the offset strategy to mitigate the loss of 5.1 hectares of Golden Sun Moth *Synemon plana* (GSM) habitat and 4.96 hectares of the ecological community, *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP) at the development site. This is achieved by outlining management actions for the protection of 30 hectares of GSM habitat and 33 hectares of NTGVVP at a site located at 6060 Hamilton Highway, Cressy, Victoria. The OMP has been written in consultation with the landowner of the offset site and is intended to be implemented by the landowner (Note: Landowner name removed from document during public comment period to protect privacy).

The proposed GSM and NTGVVP offsets outlined within this OMP comprise a portion of land within the property, not the entire Cressy property. This will be managed concurrently with the area covered by this management plan.

### Proposed Offset Site

The proposed offset site is located within an allocated portion of 6060 Hamilton Highway, Cressy, on land referred to as "Chathams Block". The offset site contains known habitat for GSM and patches of high-quality Plains Grassland which meet the key criteria for listing as the nationally significant ecological community NTGVVP. In accordance with the *Planning and Environment Act 1987*, 30 hectares of GSM habitat and 33 hectares of NTGVVP will be protected on-title through a Section 173 Agreement as an interim mechanism, and secured via a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* within 24 months post approval. The 30 hectares of GSM will be situated within the 33 hectare NTGVVP offset area.

### Management Actions

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat and NTGVVP, through the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context. The landholder will adopt an adaptive management approach to allow flexibility to respond appropriately and effectively to uncertainties involved in ecological processes. This will ensure that management objectives are being met while allowing for altered circumstances to be included in the management of the offset site.

Any proposed changes to the management actions for the offset site contrary to those specified within this plan must be approved by the Commonwealth Department of Agriculture, Water and Environment (DAWE) prior to implementation. Any proposed uses or development of the offset site which conflict with the landowners' commitments or maintenance/improvement of the community are not permitted under this plan.



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## 1 INTRODUCTION

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### 1.1 Background

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed development for the Parwan to Melton Pipeline, Victoria (EPBC 2018/8260).

A referral for the action was submitted for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2018/8260). The referral will be assessed under Preliminary Documentation, which requires the proponent to prepare and implement an Offset Management Plan to compensate for the removal of 10.357 hectares of Golden Sun Moth (GSM) habitat and 4.96 hectares of the nationally significant community: *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP).

The intention of this OMP is to detail the ongoing management actions required to protect 30 hectares of GSM habitat, as well as 33 hectares of NTGVVP at a third-party offset site located at 6060 Hamilton Highway, Cressy, Victoria, in order to offset the proposed impacts. The OMP has been written in consultation with the landowner of the Cressy offset site and management will be implemented by the landowner.

The OMP is both strategic and focused on management actions and performance measures (quantitative amounts indicated, where appropriate) in order to address management issues and key threats across the offset site.



## 2 OBJECTIVES AND CONTEXT OF THE PROJECT

### 2.1 Impact Site

The impact site (study area) for the proposed Parwan to Melton recycled water pipeline is located mostly within private property south of Nerowie Road and is bounded by Parwan South Road (west) and Butlers Road, approximately 60 kilometres north west of Melbourne's CBD. The impact site is long and linear and comprises the road reserve of Nerowie Road and intersects Bucklers Road, Green Hill Road, and Eynesbury Road in Eynesbury (from west-east).

At the time that the EPBC referral (2018/8260) was lodged in August 2018, two alignments were considered: a preferred and alternative alignment. The confirmed study area is the preferred (or southern) alignment, which is approximately 13 kilometres long, with a construction footprint of 35 hectares. The study area is comprised of road reserves and agricultural land used mostly for grazing and some cropping, which is generally flat until it intersects the Werribee River. Patches of native vegetation identified along the length of the pipeline are interspersed with Chilean Needle-grass *Nasella neesiana*, a preferred food plant of the GSM.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool (DELWP 2021a), the study area occurs within the Victorian Volcanic Plain bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and transects between the Melton Shire Council and Moorabool Shire Council municipalities. Relevant Melton Planning Scheme overlays which apply to the study area are the Design and Development Overlay – Schedule 2 (DDO2), Environmental Significance Overlay – Schedule 1 (ESO1) and 4 (ESO4). The Green Wedge Zone (GWZ) also applies to the study area.

The proposed action at the impact site will have a direct impact on 10.357 hectares of GSM habitat and 4.96 hectares of NTGVVP. The objectives of this OMP are to offset the loss of 5.1 hectares of GSM habitat and 4.96 hectares of the nationally significant ecological community NTGVVP. GSM and NTGVVP are listed as Critically Endangered under the EPBC Act (at the time of the decision made on the EPBC act referral).

### 2.2 Offset Site

#### 2.2.1 Description of the Offset Site

The third-party offset site (offset site) is located at a private property at 6060 Hamilton Highway, Cressy, Victoria, approximately 110 kilometres west of Melbourne's CBD (Figure 1). The offset site is in a relatively undisturbed state (i.e. no history of having been ploughed), evident through the presence of embedded rock across the site. The site is currently used for the grazing of sheep and the properties surrounding the offset site are used for a mixture of agricultural activities including grazing and cropping. The offset site is within the Farming Zone (FZ) and is a Designated Bushfire Prone Area. The offset site is not subject to any specific planning overlays however the southern portion of 680 Hamilton Highway (immediately to the east of the offset site) is subject to an Environmental Significance Overlay. No cultural heritage overlay applies to the site.

The offset site is part of a larger patch of native vegetation within an established offset site adjoining the northern boundary of the NTGVVP offset area covered by this OMP (Figure 2).



According to the Department of Environment, Water, Land and Planning (DEWLP) Native Vegetation Information Management Tool (NVIM) (DEWLP 2021a), the offset site occurs within the Victorian Volcanic Plain Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Colac Otway Shire municipality.

Previous assessments of the offset site were undertaken by Biosis (2019), SMEC (2019) and Ecology and Heritage Partners Pty Ltd (2018). These assessments focused on determining the ecological values present within the broader area proposed for use as future offsets. The ecological values of the offset site include high quality grassland, some of which meets the threshold to be classified as NTGVVP and grassland habitat for SLL and GSM. Previous surveys identified three MNES included within the offset site area; GSM, SLL, NTGVVP. An updated assessment of weed cover at the offset site was undertaken by Ecology and Heritage Partners on 10 February 2022.

The offset site will protect 33 hectares of land (including 33 hectares of NTGVVP, overlapping with 30 hectares of GSM habitat). The offset site is located within a larger area of native vegetation, containing approximately 262 hectares of confirmed GSM and SLL habitat, and NTGVVP (Biosis 2019; SMEC 2019).

### Golden Sun Moth

Incidental records identified 55 individuals observed on 21 November 2018 (Biosis 2019). SMEC undertook surveys on 29 and 30 November 2018 and 6 and 12 December 2018, with a total of approximately 2969 individuals recorded during the survey event (SMEC 2019). GSM were distributed throughout the broader offset area, with suitable habitat present across the site. It should be noted 2018 was a year with large numbers of moths flying.

### Natural Temperate Grassland of the Victorian Volcanic Plain

The entire 33 hectare proposed offset area contains high-quality Plains Grassland of which most of it meets the condition threshold to constitute NTGVVP. NTGVVP within the offset area is dominated by native grasses, including Kangaroo Grass *Themeda triandra*, Wallaby-grass *Rytidosperma* spp., Spear-grass *Austrostipa* spp., and Tussock-grass *Poa* spp. (Biosis 2019). A mixture of native herbs occurred within the site, with commonly observed species including Blue Devil *Eryngium ovinum*, Bindweed *Convolvulus angustissimus*, Cut-leaf Burr-daisy *Calotis anthemoides* and Common Woodruff *Asperula conferta* (Biosis 2019).

Weeds have previously been recorded within the offset area, primarily consisting of Flatweed *Hypochaeris radicata*, Yorkshire Fog *Holcus lanatus*, Toowoomba Canary-grass *Phalaris aquatica* and annual grasses such as Hair-grass *Aira* spp., Quaking-grass *Briza* spp., Squirrel-tail Fescue *Vulpia myuros* and Brome *Bromus* spp. No woody weeds were recorded within the offset area (Biosis 2019), which was confirmed during the February 2022 site visit.

The MNES relevant to this OMP will be protected on-title through a Section 173 Agreement under the *Planning and Environment Act 1987* as an interim mechanism. A Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* will be established in perpetuity for the area covered by this OMP. This OMP provides the specific management actions for to be implemented under both the Section 173 Agreement and the subsequent Covenant.

### 2.2.2 Tenure Arrangements

The proposed offset site is privately owned and is currently in the process of being protected through a Section 173 Agreement under the *Planning and Environment Act 1987*. Further, the offset site will be



protected via a Trust for Nature conservation covenant within 12 months of the EPBC Act referral (2018/8260) approval being granted. Once the Trust for Nature Covenant is secured on title, the Section 173 Agreement will be removed.

### 2.2.3 Environmental Condition and Values

The offset site contains a large population of GSM, which reside within the areas of NTGVVP. This OMP will focus on two matters of NES relevant to the proposed action (NTGVVP and GSM). One additional matter, Striped Legless Lizard is known to occur within the offset area.

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### 3 RISK ASSESSMENT

An assessment of potential risks associated with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.

**Table 1.** Risk assessment and management table for specific offset site for GSM and NTGVVP (Appendix 1).

Management objective/desired outcome	Event or circumstance	Relevant management actions/ measures	Residual risk			Trigger detection and monitoring activities	Feasible/effective corrective actions	Notes
			L	C	RR			
To legally secure approved offset properties for conservation.	Failure to legally secure approved offset site	Engage with expert offset brokers	Unlikely	Moderate	Low	n/a	Engage a consultant	Low risk: the site is currently in the process of being secured with an on-title agreement (Section 173 Agreement). Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
	Legislative reform prejudices proposed tenure arrangements for offset properties.	Monitor DAWE, DEWLP LGAs and other legislative bodies on developments to offsets	Rare	High	Low	Newsletters, expert liaison, press releases and direct contact.	Adjust offset calculations accordingly.	

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger and monitoring activities	Feasible/effective corrective actions	Notes
			E	C	RR			
To achieve performance targets and completion criteria for all MNES	Landowner-proponent agreements fail to adequately address management commitments in the offset plan	Engage an expert to manage this process. Ensure all impacts are suitably offset.	Unlikely	High	Medium	Quality assurance and monitoring	Revise on-title and/or proponent agreements.	The site will be protected through a Section 173 Agreement. The Section 173 Agreement will be placed on-title and therefore undergo a further review by the Titles Office. Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
	Adjacent/regional landowner's land management practices fail to support attainment of offset outcomes.	Liaise with adjacent landholders. Ensure understanding of offset objectives	Unlikely	High	Medium	Adjacent land practices begin to negatively impact offset site.	Take steps to halt negative impacts. Follow up with stakeholder discussions	The adjacent land parcels contain agricultural land (grazing and/or cropping). Based on the current land management practices in the region and it is unlikely that any foreseeable land management practices within the vicinity will impact the offset site.
To achieve performance targets and completion criteria for all MNES	Insufficient funds provided by proponent to implement the plan.	Ensure reputable land holder to implement plan.	Unlikely	High	Medium	Monitoring and/or annual reporting	Review plan for cost efficiencies.	The offset funds provided by the proponent will be deposited to the land holder. The landholder

Management objective/desired outcome	Event or circumstance	Relevant management actions/measure	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To achieve performance targets and completion criteria for all MNES	Stochastic events (wildfire/drought/flood) prejudice attainment of interim performance targets and/or completion criteria for MNES.	Ensure appropriate biomass management. Plan for scheduling delays.	Possible	High	Medium	Monitoring and/or annual reporting	Apply adaptive management to ensure the objectives of the OMP are not compromised.	-
	Approved development on/near project/offset prejudicing plan outcomes	Ensure proper stakeholder engagement to prevent poor outcomes.	Unlikely	High	Medium	Advertisement of planning scheme amendments/planning permit applications	Objection to proposed development/laisse with proposed to ensure the proposed development does not compromise the objectives of the OMP.	The offset site is within a semi-rural agricultural landscape, as such, there is a low likelihood of development within adjacent properties. The ecological values within the offset site do not rely on habitat values within adjacent land.
	Drought		Likely	Moderate	Medium	Drought Event		The NTGVVP offset (33 hectares) includes the GSM offset (30 hectares). The offset site sits within 262 hectares of similar quality grassland within the property. The offset site and adjacent areas have been historically subject to frequent
	Wildfire	Apply adaptive management to ensure the site is not over-grazed	Likely	Moderate	Medium	Wildfire Event	Apply adaptive management to ensure the site is not over-grazed	



Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
NTGVVP habitat improved		Maintain fences and install temporary fencing, if required (Section 5.5.3.)						drought and occasional wildfire. As such, the GSM population and NTGVVP community is likely to survive such an event.
		Exclude stock during (October-November) (see Section 5.5.6 for further information on exclusion period)	Highly Likely	Moderate	Unlikely	Continual monitoring	Repair permanent fences, and/or install temporary exclusion fences.	
	Uncontrolled grazing	Undertake pulse grazing (Section 5.5.6.)						
	High biomass levels preventing establishment of native herbs (see Section 5.5.6.4 for performance indicators)	Grazing excluded between October-November annually, in perpetuity (Section 5.5.6)	Highly Likely	Moderate	Possible	Annual monitoring	Apply pulse grazing in appropriate season to reduce biomass levels (Section 5.5.6.2)	
Loss of biodiversity due to competition with weeds (see		Spot spraying of weeds (Section 5.5.4.)	Likely	Moderate	Possible	Annual monitoring	Undertake weed control activities (Section 5.5.4)	The Offset Management Plan includes actions to reduce weed cover, improving the ecological

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activities	Feasible/effective corrective actions	Notes
			L	C	RR			
	Section 5.5.4.3 for performance indicators)	Undertake pulse grazing (Section 5.5.6)						condition of the site over the 10 year period.
		Annual monitoring to adapt future control works and targets (Section 8)						
	Loss of biodiversity due to pest animal activity (see Section 5.5.5.3 for performance indicators)	Rabbit warrens or fox dens are controlled (Section 5.5.5)	Likely	Moderate	Possible	Annual monitoring	Undertake pest control activities (Section 5.5.5.)	The Offset Management Plan includes actions to reduce pest animal activity, thereby reducing grazing/soil disturbance by the European Rabbit. As a result, the GSM population and NTGVVP ecological community is likely to improve and expand within the site as it is managed.

Notes. L = Likelihood; C = Consequence; RR = Residual Risk

## 4 UNAVOIDABLE LOSS AND OFFSET OBLIGATIONS

### 4.1 Unavoidable Loss

The proposed development at the impact site (Parwan to Melton Pipeline) will result in the removal of the following Matters of National Environmental Significance (NES):

- 10.357 hectares of Golden Sun Moth;
- 4.96 hectares of *Natural Temperate Grassland of the Victorian Volcanic Plain*, and;
- 0.266 hectares *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia*.

### 4.2 Offset obligations, user inputs and applying the offset guide

#### 4.2.1 Golden Sun Moth and Natural Temperate Grassland of the Victorian Volcanic Plain

Based on the EPBC Act offset calculator (DSEWPaC 2012b), the protection and management of 30 hectares of GSM habitat (which overlaps with NTGVVP) at the Cressy offset site provides a direct offset for the impacts to 5.1 hectares of GSM habitat. (Table 2; Appendix 2). The protection and management of 33 hectares of *Natural Temperate Grassland of the Victorian Volcanic Plain* within the proposed offset site provides a direct impact offset of 100.13% (Table 3; Appendix 2). As such, 100% of the offset requirements will be met through direct offsets and are considered to be in accordance with the Commonwealth environmental offset policy (DSEWPaC 2012a).

**Table 2** EPBC Act Offset Calculator (Golden Sun Moth) associated with the Cressy offset site

Offset Criteria	Response
<b>Impact Site</b>	
<b>Impact Location</b>	Parwan to Melton Pipeline: south of Nerowie Road, Parwan, VIC
<b>Habitat to be removed</b>	5.1 hectares of Golden Sun Moth habitat (GSM)
<b>Habitat quality</b>	5/10. A total of 991 moths were recorded during the 2016/17 flight season. However, most moths were recorded along the alternative alignment, which will no longer be impacted. The GSM habitat within the impact area is also dominated by Chilean Needle-grass <i>Nassella neesiana</i> , which is a noxious weed. Therefore, the habitat quality at the impact area is of moderate quality (DSEWPaC 2012b).
<b>Offset Site</b>	
<b>Offset location</b>	6060 Hamilton Highway, Cressy, Victoria
<b>Risk-related time horizon</b>	20 years. The land will be managed in perpetuity for conservation purposes for Golden Sun Moth.
<b>Time until ecological benefit</b>	10 years. The existing habitat condition is expected to be improved over the 10-year active management schedule detailed in the Offset Management Plan. Potential management activities may include, but are not limited to ecological burning, tactical grazing, bush regeneration and treatment of pest fauna. Golden Sun Moth relies upon native and/or non-native grassland



Offset Criteria	Response
	<p>habitat (especially those dominated by tussock forming grass species). Where suitable habitat is available, the species can tolerate grazing but requires areas without a recent history of cropping. Improving vegetation structure (e.g., regrowth of heavily grazed grassland) could be achieved over relatively short time periods (i.e., 2 - 5 years), however ecological benefits arising from management would be conservatively assessed after a 10-year period to allow the species sufficient time to re-stock the site following habitat improvements.</p>
<p><b>Start area and quality of offset site</b></p>	<p>30 hectares in total, assigned a starting quality of 6/10.</p> <p>The offset site was assessed by SMEC during the Golden Sun Moth flight season in 2018 (SMEC 2019). The Golden Sun Moth habitat surveyed previously was high quality, with approximately 2969 moths recorded across the broader offset area (262 ha area). GSM habitat covers the entire selected offset site, which is located within a broader patch of suitable habitat approximately 262 hectares in size (SMEC 2019). The habitat quality is based on (DSEWPaC 2012b):</p> <p>Site condition: 6/10. The site supports a diversity of native grasses, including key grass species associated with Golden Sun Moth (Wallaby-grass <i>Rytidosperma</i> spp., Spear-grass <i>Austrostipa</i> spp.) with at least 40% cover of native grass; The starting site condition was assessed through a Vegetation Quality Assessment (VQA) using the habitat hectare assessment method. The VQA scores for site condition were as follows: understorey score of 15/25, weed score of 6/15, recruitment score of 10/10 and organic litter score of 5/5 (Biosis 2019). The presence of exotic grasses, primarily Toowoomba Canary-grass and Brown-top Bent-grass and Flatweed, negatively impacted both the weed score and understorey score.</p> <p>The Victorian Biodiversity Atlas has multiple records of Golden Sun Moth scattered within 10-kilometres of the study area, indicating that other suitable habitat exists within the broader region, and the population within the offset site is not an isolated population. Threats that occur to the population within and adjacent to the offset site include the loss of suitable habitat through land clearance (cropping) or disturbance (heavy grazing/slashing).</p> <p>The habitat at the offset site is of moderate-high quality for Golden Sun Moth. This is due to a native vegetation cover of at least 40% including key food resources (wallaby-grass, spear-grass, Kangaroo Grass) present within the offset area.</p>
<p><b>Risk of loss without offset</b></p>	<p>5%. There are currently no formal protection mechanisms that protect the ecological values present within the offset site, however additional offset sites are located adjacent to the proposed offset site, which are protected via a Trust for Nature covenant (EPBC 2019/8569). Without protection and ongoing management as an offset site, there is a degree of uncertainty regarding the future condition of the land.</p> <p>As the broader offset property is zoned Farming Zone (FZ), there is a risk that the Golden Sun Moth will be lost by intensified agricultural use (e.g. cropping or intensified grazing). Inappropriate grazing regimes by hard-hooved livestock at higher stocking densities will result in compaction of the soil, which negatively impacts Golden Sun Moth. Intensive agricultural activities such as ploughing, sowing pasture grasses, fertiliser application and/or tilling the soil is likely to result in complete loss of the Golden Sun Moth population. The risk posed by intensification of agricultural use is evidenced by cropping activities in properties surrounding the offset site. A protective covenant provides legal protection, averting this risk of losing the Golden Sun Moth community within the site.</p>
<p><b>Future quality without offset</b></p>	<p>5/10. Without protection as an offset site there is uncertainty regarding the future condition of the land. Without increased management as an offset, a reduction in quality over time is likely to occur due to continued pest and weed encroachment from the broader property, adjoining properties and nearby roads, as well as a lack of conservation land management, including biomass management resulting in a reduction in species diversity.</p> <p>Relatively small areas within the site have a high cover (30%) of Toowoomba Canary-grass, which is a fast-growing species that can quickly outcompete native grass species such as wallaby-grass</p>

Offset Criteria	Response
	<p>and spear-grass. Without ongoing management, this weed can displace plants that constitute important food resources for the Golden Sun Moth.</p> <p>Without strategically designed grazing strategies, stock can overgraze/undergraze Golden Sun Moth habitat, leading to a shift in introduced species dominance and/or, soil compaction, which reduces the viability of the offset site to support Golden Sun Moth.</p> <p>Rabbits were recorded within and nearby the offset site. Without increased management, rabbits are likely to prevent the recruitment of host plants, leading to a decline in the Golden Sun Moth community.</p>
<b>Risk of loss with offset</b>	<p>1%. There is a 1% chance that the GSM population will be lost with the offset being protected and managed in accordance with the OMP placed on-title. There is a low level of risk given the evidence of recent voluntary conservation works (weed control targeting GSM known habitat) within the site, these works have proved to be successful, demonstrating the landholder's capability in managing threats. Further, the availability of GSM habitat adjacent to the offset site further consolidates habitat within the property.</p>
<b>Future quality with offset</b>	<p>7/10. There is a high level of confidence that the future quality of the Golden Sun Moth offset site will increase through the active implementation of the various actions outlined in the Offset Management Plan. There is a high likelihood that the management actions provided in the Offset Management Plan will lead to an increase in the species' habitat quality, site occupancy and population size. The management actions outlined in this Plan are well known and proven, and therefore there is a high likelihood that the quality of the habitat will improve in the future (DEWHA 2009a, 2009b).</p> <p>Currently, the exotic vegetation cover is variable across the site, with the average cover being approximately 45%. It is expected that at the end of the 10-year management period the exotic vegetation cover will not exceed 45%. It is expected that at the end of the 10-year management of the site, the weed score will be maintained at 6/15 and the recruitment score maintained at 10/10. The weed score will be maintained through the management of exotic grasses, where biomass will be monitored to ensure adequate inter-tussock spacing, and targeted control of Toowoomba Canary-grass will be undertaken. The targeted control of Toowoomba Canary-grass will provide opportunity for native grass and herb recruitment, increasing the cover of native species and maintaining or improving the understorey score to a minimum of 15/25. Further detailed on weed control actions are detailed in Section 5.5.4.</p> <p>Due to the commitment of the current landowner and investment in the active management of the site these factors provide a high level of confidence that the future quality of the offset will increase (i.e. a score of seven is realistic).</p> <p>The offset site is to be secured and managed for conservation purposes in perpetuity, with implementation of a management plan incorporating weed control, biomass control and regular monitoring, aiming to enhance native biodiversity.</p> <p>The species was previously observed in grassland areas with at least 20% native grass cover (wallaby-grass, spear-grass) and weed management is necessary to ensure that native grass cover is maintained.</p> <p>Appropriate livestock grazing management is necessary to ensure that soil compaction is minimised and native grasses are not overgrazed. Low density grazing can be beneficial for maintaining GSM habitat.</p> <p>Pest management is required to ensure rabbit populations are managed and numbers are reduced to prevent over-grazing.</p>
<b>Confidence in result</b>	<p>80-90%. Confidence in applied scores is relatively high due to careful consideration of the offset site, existing condition and evidence of the landholder's capability to manage threats through recent conservation works. The site will be protected through a Section 173 Agreement under the <i>Planning and Environment Act 1987</i> with Council. Council undertakes a quality assurance process for all offset sites to ensure the landowner agreements address the management commitments in the plan.</p>

Offset Criteria	Response
	Further, the site will be secured via a Trust for Nature covenant under the <i>Victorian Conservation Trust Act 1972</i> within 24 months post approval of the referral.
% of impact offset off-site	30 hectares high quality GSM habitat: 100.50%

**Table 3.** EPBC Act Offset Calculator (Natural Temperate Grassland of the Victorian Volcanic Plain)

Offset Criteria	Response
<b>Impact Site</b>	
Impact Location	Parwan, VIC (linear corridor from around Werribee River to Parwan South Road)
Habitat to be removed	4.96 hectares of Natural Temperate Grassland of the Victorian Volcanic Plains (NTGVVP)
Habitat quality	The NTGVVP patches of Plains Grassland proposed to be removed are of low-moderate quality with a Habitat score of between 31-34 out of 100. The NTGVVP patches were predominately characterised by the presence of one to several native tussock grasses. Many of these have degraded since the initial site assessment due to existing or altered land use. The current condition is based on a high weed cover and the isolated nature of the patches within an agricultural landscape, which are therefore vulnerable to edge effects (livestock grazing, fertiliser use, weed encroachment and land use practices) (Ecology and Heritage Partners 2020c).
<b>Offset Site</b>	
Offset location	Cressy, Victoria
Risk-related time horizon	20 years. The land will be managed in perpetuity for conservation purposes for Natural Temperate Grassland of the Victorian Volcanic Plains
Time until ecological benefit	10 years. The existing habitat condition is expected to be improved over the 10-year active management schedule detailed in the Offset Management Plan.
Start area and quality of offset site	<p>33 hectares; 6/10. The offset site was assessed by Biosis (2019) which recorded approximately 262 hectares of NTGVVP in the broader offset area. The offset site supports high quality NTGVVP. It is contiguous with larger areas of moderate to high quality NTGVVP to meet approvals for other projects under the EPBC Act. The condition of the NTGVVP area proposed to be offset is 60/100 based on the Habitat Hectare assessment completed by Biosis (2019). A rapid ground-truthing assessment of weed cover was undertaken by Ecology and Heritage Partners in February 2022 to review the weed cover, which remained relatively consistent with the Biosis assessment.</p> <p>The NTGVVP offset site Start area and habitat quality is based on (DSEWPac 2012b):</p> <ul style="list-style-type: none"> <li>• Site condition: 6/10. The site supports a diversity of native grasses (Wallaby-grass, Spear-grass, Tussock Grass and Kangaroo Grass, with at least a 50% perennial cover of native species, which meets the minimum threshold criteria for NTGVVP;</li> <li>• Based on a review of aerial photography, predictive mapping of native vegetation extent, and knowledge of NTGVVP habitat in the region, the proposed offset site is connected to other patches of NTGVVP within the broader property. There are also isolated patches of high-quality Plains Grassland native vegetation within 10-kilometres of the site, including in road reserves along Cressy-Shelford Road to the north of the site and within private property to the south of the site. Threats that occur to the community within and adjacent to the offset site include the loss of suitable habitat through land clearance (cropping), disturbance (heavy grazing/slashing) and weed incursion.</li> </ul>

Offset Criteria	Response
	<p>Specifically, the habitat (site condition) and NTGVVP community extent within the surrounding landscape at the offset site are the most influential factors contributing to offset site quality. The habitat is moderate-high quality for NTGVVP. This is based on the patch identified as NTGVVP, having a moderate diversity of native grasses and herbs with minimal weed incursion. The definition for NTGVVP of sufficient quality for listing has been based on information provided in the <i>Nationally Threatened Ecological Communities of the Victorian Volcanic Plain: Natural Temperate Grassland &amp; Grassy Eucalypt Woodland</i> (DSEWPac 2011). The combination of habitat factors presented has resulted in the starting quality of NTGVVP habitat being assessed at 6/10.</p>
<p><b>Risk of loss without offset</b></p>	<p>5%. There are currently no formal protection mechanisms that protect the ecological values present within the offset site. Without protection and ongoing management as an offset site, there is uncertainty regarding the future condition of the land.</p> <p>As the broader offset property is zoned Farming Zone (FZ), there is a risk that the NTGVVP will be lost by intensified agricultural use (e.g. cropping or intensified grazing). Inappropriate grazing regimes will result in excessive pugging within the grassland and inhibit reproduction of native flora due to overgrazing during the flowering period, reducing species diversity and increasing opportunities for weed invasion. Intensive agricultural activities such as ploughing, sowing pasture grasses, fertiliser application and/or tilling the soil is likely to result in complete loss of the NTGVVP population. The risk posed by intensification of agricultural use is evidenced by cropping activities in surrounding the offset site. A protective covenant provides legal protection, averting this risk of losing the NTGVVP community within the site.</p>
<p><b>Future quality without offset</b></p>	<p>5/10. Prior to European settlement, it is highly likely that the NTGVVP within the offset site was a higher quality grassland patch, not fragmented by roads, fences or cropped areas and relatively weed free. As the region has been exposed to agricultural use, more roads and land use practices have been introduced, resulting in an increase in weeds within the native grasslands, and fragmentation of patches into smaller reserves. Changing water regimes and introduction of livestock also contribute to a decline in condition. Negative impacts from continued farming use into the future are likely to result in further declines to the native grassland, as new weeds are introduced from the adjacent road and livestock entering the property, ability for the landholder to graze any livestock (i.e. introduce cattle), and intensely graze the site without conservation considerations (i.e. biomass management). In addition, an unused road reserve occurs to the east of the offset area, which if developed, poses an additional threat of weed spread into the grassland if unmanaged.</p> <p>Given the current land use (i.e. grazing) at the proposed offset, the absence of a security arrangement and lack of conservation management of the understorey specifically for NTGVVP, it is likely that the habitat will decline in quality in the future from an initial quality score of 6 to 5.</p> <p>Toowoomba Canary-grass is a perennial introduced species and had a weed cover of approximately 30% within the NTGVVP patches. This weed requires management, to ensure it does not further encroach/out-compete native grasses. Flatweed is also present in areas on the site and can cover much of the ground during wet seasons.</p> <p>Without strategically designed grazing strategies, stock can overgraze/undergraze NTGVVP, leading to a shift in introduced species dominance and/or, preventing host plants from recruiting. Grazing can lead to an increase in the cover of Flatweed when not managed in a way that considers conservation, therefore without the protection and incentive to manage the conservation values within the land, the cover of Flatweed (in addition to Toowoomba Canary-grass) is likely to result in a decline in quality.</p> <p>Rabbits were recorded within and nearby the offset site. Without increased management, rabbits are likely to prevent the recruitment of host plants, leading to a decline in the NTGVVP community.</p>

Offset Criteria	Response
<b>Risk of loss with offset</b>	<p>1%. There is a 1% chance that the offset site will be lost with the offset being protected and managed in accordance with the OMP placed on-title. There is a low level of risk given the evidence of recent voluntary conservation works (weed control) within the site, these works have proved to be successful, demonstrating the landholder's capability in managing threats. Further, the location of an adjacent offsets site (OMPs for the adjacent site currently being prepared), further consolidates habitat within the property.</p>
<b>Future quality with offset</b>	<p>6/10. The offset site is to be secured and managed for conservation purposes in perpetuity, with implementation of a management plan incorporating weed control, biomass control and regular monitoring, aiming to enhance native biodiversity.</p> <p>The quality of NTGVVP will be improved by actions outlined in Section 5.5, and include:</p> <ul style="list-style-type: none"> <li>• Reducing weed cover, targeting perennial grass weeds which outcompete plants that constitute NTGVVP;</li> <li>• Control all high threat weeds (&lt;20% cover), reducing competition for the NTGVVP community;</li> <li>• Reducing rabbit populations, and thereby reducing the threat posed to on-going survival and establishment of host plants by overgrazing from exotic herbivores; and,</li> <li>• Ensuring that grazing regimes by stock is undertaken in a manner sensitive to the requirements of NTGVVP.</li> </ul> <p>Proposed management actions are above and beyond both current and past management of the site. While the site is currently grazed, and has been historically grazed, the grazing periods are not managed in consideration of biodiversity values and NTGVVP. Further, while some weed and rabbit control has occurred on the property, the level of control committed under this management plan is well beyond current management.</p> <p>Based on the increased management of the site, as outlined within Section 5.5 of this plan, which as outlined above are beyond past and current management, the habitat quality of the offset site is likely to be significantly improved beyond what the site would be without implementation of the offset.</p> <p>Largest changes in community quality are likely to be represented by site condition. Performance indicators that demonstrate the success of management actions aimed at improving the future quality of the offset site are provided in Section 5.5.2 and Section 5.6.</p>
<b>Confidence in result</b>	<p>90%. Confidence in applied scores is relatively high due to careful consideration of the offset site, existing condition and evidence of the landholder's capability to manage threats through recent conservation works. The site will be protected through a Section 173 Agreement under the <i>Planning and Environment Act 1987</i> with Council. Council undertakes a quality assurance process for all offset sites to ensure the landowner agreements address the management commitments in the plan.</p> <p>Further, the site will be secured via a Trust for Nature covenant under the <i>Victorian Conservation Trust Act 1972</i> within 12 months post approval of the referral.</p>
<b>% of impact offset off-site</b>	100.13%

## 5 OFFSET IMPLEMENTATION

### 5.1 Management Objectives and Strategy

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat and NTGVVP, the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context.

The offset site will be protected in perpetuity via a Section 173 Agreement (Table 4) and a Trust for Nature Covenant. The Section 173 agreement will be an interim mechanism until the Trust for nature covenant is placed on title (within 24 months of the EPBC Act approval for the project). This OMP will be attached to the on-title agreement and require the landowner to manage the offset site in accordance with the requirements detailed herein. Security, management and monitoring responsibilities are summarised in Table 5. This OMP relates solely to the 30 hectares of GSM habitat and 33 hectares of NGTVVP and includes actions related to the ongoing monitoring and management of the ecological communities.

**Table 4.** Security and Management Responsibility

Offset Security and Management Responsibility	Parwan to Melton Pipeline
Who is liable/responsible for meeting offset requirements?	Greater Western Water
Type of security mechanism	Interim: Section 173 agreement Future: Trust for Nature Covenant
Agreement or Planning Permit Number (ID)	TBC/2020 EPBC 2018/8260
Date 10-year offset management to commence	Upon approval of this OMP by DAWE
Date 10-year offset management expires	10 years following approval of this OMP by DAWE
Offset site management responsibility (i.e. Landowner, Authority Name)	Landowner
Offset Monitoring Responsibility (i.e. Responsible Authority)	Landowner, Greater Western Water, DAWE, TfN

### 5.2 Compliance with Offset Principles

The 'Environmental Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy' (DSEWPaC 2012a) outlines a set of principles that a proposed offset must meet in order to be assessed under the referral process. These principles are detailed in Section 7 of the Preliminary Documentation (Ecology and Heritage Partners 2020b), along with how the proposed offset site meets these requirements.



### 5.3 Offset Targets

The EPBC Act offsets policy (DSEWPaC 2012a) provides the details of the offsetting approach for Matters of NES; this includes an Offset Assessment Guide and offset calculator.

The Offset Assessment Guide offset calculator has been completed to determine the area of offset required to adequately compensate for the removal of GSM habitat and NTGVVP at the development site. The Offset Assessment Guide offset calculator is provided in Appendix 2, and a justification for the scores given in Section 4.2.

### 5.4 Ongoing Land-use Commitments

The offset site will be managed to facilitate an improvement in the quality of remnant NTGVVP vegetation community and maintenance of GSM habitat 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.

From the commencement of the agreement, the landowner agrees to undertake the following long-term (ongoing) management objectives in perpetuity for the 33 hectares of land:

- Retain and manage all native vegetation as directed by this OMP;
- Exclude domestic stock, except as permitted by this OMP;
- Maintain woody weeds to < 1 % cover;
- Maintain cover of exotic grassy weeds to levels described in Section 5.5.4;
- Within the GSM habitat, maintain herbaceous weed cover at the current level of approximately 45% (predominantly Flatweed);
- Within the 33 hectares of NTGVVP offset area, maintain herbaceous weed cover at the current level of approximately 45% (predominantly Flatweed);
- Achieve a VQA weed score of at least 6/15 (i.e. 25-50% cover and less than 50% high threat weeds) within the NTGVVP offset area at the end of the 10 Year management;
- Maintain a VQA weed score of at least 6/15 (i.e. 25-50% cover and less than 50% high threat weeds) within the GSM offset area at the end of the 10 Year management;
- Implement actions to control any new and emerging weeds identified during Detailed Vegetation Monitoring events (Section 8.2) and maintain to < 1% cover;
- Control rabbits; and
- Undertake biomass management (grazing).

Of note, weed invasion and inappropriate grazing regimes are two of the main demonstrated threats to NTGVVP communities and GSM populations. This OMP addresses these demonstrated threats by including management actions aimed at reducing the likelihood of weed invasion, the preparation of an appropriate grazing regime sensitive to the values that exist in the offset site and surrounds.

Due to the nature of an in-perpetuity commitment, at times weed levels may exceed the listed objectives due to unknown weed threats in the future. The landowner will endeavour to control weeds across the

offset site at the agreed levels, however, it is acknowledged that weed cover will fluctuate on temporal and spatial scales due to seasonal conditions (e.g. Flatweed) over the life of the approval and beyond.

## 5.5 Management Actions

Implementation of the management actions (excluding third party monitoring) outlined within this OMP is the responsibility of the landowners as detailed in the MoU prepared between Western Water and the landowner, however, direct management responsibility may be delegated to a designated site manager and/or managing ecologist with annual reports submitted to Council (until the TfN covenant is registered on title), Trust for Nature, DAWE and the Proponent (Western Water). Specific monitoring and reporting requirements are detailed in Section 8.

Management actions detailed in this OMP will commence from the date the offset site is secured on title (i.e. registration of the Section 173 Agreement). A breakdown of management actions required over the mandatory 10-year active management period is shown below (Table 10). Following the 10-year active management period, the landowner will continue to manage the offset site as specified in this plan, such that:

- By Year 10 of management, the ongoing weed control across the offset site will have the objective to reduce weed levels within the NTGVVP offset area and maintain weed levels for the remaining areas of GSM habitat based on weed levels upon inception of this plan (Section 5.5.5). Following Year 10 of this plan, the weeds within the site will be maintained at the improved state achieved at Year 10;
- GSM habitat is maintained through control of weeds and biomass control action and at minimum, maintaining the current stocking rates, and;
- NTGVVP community is improved through an increase in vegetation condition.

Funding for undertaking security, management and monitoring actions prescribed in this OMP has been agreed between the landowner and the Approval Holder, in accordance with the signed MoU between both parties.

The management and monitoring obligations are limited to those listed in this plan as approved by DAWE, the Approval Holder and Trust for Nature.

Any proposed uses or development of the offset site which conflict with the landowner's commitments are not permitted under this plan. The ecological values of the offset site must be considered with all management actions and all contractors entering the offset site need to be made aware of its ecological values and potential implications of this plan.

The management and monitoring actions detailed in this OMP have been development in accordance with the following legislation and/or policies:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- *Flora and Fauna Guarantee Act 1988* (FFG Act);
- *Catchment and Land Protection Act 1994* (CaLP Act);
- Commonwealth's Threat abatement plan for competition and land degradation by rabbits (DoE 2016);



- Commonwealth's Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (DAWE 2017);
- Commonwealth Listing Advice on *Natural Temperate Grassland of the Victorian Volcanic Plain* (TSSC 2012c);
- Approved Conservation Advice for the *Natural Temperate Grassland of the Victorian Volcanic Plain* (TSSC 2008);
- Significant impact guidelines for the critically endangered Golden Sun Moth (*Synemon plana*). Department of the Environment, Water, Heritage and the Arts (DEWHA 2009a); and,
- Approved Conservation Advice for *Synemon plana* (golden sun moth). Canberra: Department of the Environment. Department of Environment (DoE 2013);

The management and monitoring obligations are limited to those listed in this Plan as approved by DAWE, the Approval Holder and Trust for Nature.

### 5.5.1 Golden Sun Moth

This management plan has been formulated to address several priority actions outlined within the Conservation Advice for the species (DoE 2013):

- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible;
- Retain and protect natural grassland remnants within the known distribution of the species;
- Monitor known populations to determine the species' status;
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary;
- Identify populations of high conservation priority;
- Control invasions of weeds and pasture species, and consider the impact of herbicide use in habitat; where possible use methods that directly target weeds such as spot spraying to minimise the adverse impact on GSM;
- Manage the amount of grazing to minimise any direct adverse effects on GSM or its habitat. The management regime should include some focus on grazing and fire, as combining the two in the wrong way (e.g. heavy grazing soon after a fire) is particularly damaging to perennials; and
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions as listed in this plan.

#### 1.1.1.1 Existing Threats

The main threats to the offset site 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 that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass. High threat



weeds are defined as those introduced species (including non-indigenous natives) with the ability to outcompete and substantially reduce one or more indigenous life forms in the longer terms assuming on-going current site characteristics and disturbance regime.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 2.

Maintenance and protection of the offset site will be achieved by:

- Stock-proof fencing around the boundary of the offset site and low impact dividing fencing to allow more controlled grazing;
- Weed control through active management;
  - Maintaining all woody environmental weeds to < 1% cover;
  - Maintaining cover of exotic grass to approximately 450% cover;
  - Controlling herbaceous weed cover to levels outlined in Section 5.5.5.2.
- Biomass control through a combination of pulse grazing in dry years and light grazing of domestic stock (sheep only) in wet years with stock generally (depending on the season) excluded from 1<sup>st</sup> October to 31<sup>st</sup> January;
- Controlling pest animals, particularly rabbits and foxes; and
- Managing native species understorey diversity and recruitment.

**1.1.1.2 Threats specific to Golden Sun Moth**

The key threats to Golden Sun Moth, as identified in the Significant Impact Guidelines for the species are outlined below (Table 5) (DEWHA 2009) and addresses the management action that will be applied to the offset site to mitigate the threat. Further details regarding each management action is provided in Section 5.5.2 to Section 5.5.6, and a table of recommended management actions for each year in Section 5.6.

**Table 5.** Key threats to Golden Sun Moth

Key threat to GSM (DEWHA 2009)	Mitigation measure
Removal of vegetation	Habitat for Golden Sun Moth within the offset site will be protected by fencing (Section 5.5.4) and will be protected through a temporary Section 173 Agreement and a perpetual Trust for Nature Covenant. Without this protection, the site may be inadvertently cropped or cleared.
Inappropriate fire regimes	Maintain biomass to reduce fuel loads across the site (Section 5.5.6). In addition, wildfires have occurred in the past at the offset site, which have not had a significant impact on Golden Sun Moth as their current population numbers remain high. The biomass level monitoring will aid in the prevention of a damaging wildfire through fuel reduction management.
Weed invasion	One main weed, Toowoomba Canary-grass, poses a threat of invasion and reducing the native grasses present within the offset site. Toowoomba Canary-grass, along with other key weed species including the declared noxious weed Serrated Tussock <i>Nassella neesiana</i> will be prioritised for control, with target levels set to be achieved within the 10-year management plan (Section 5.5.5). Without the control of

Key threat to GSM (DEWHA 2009)	Mitigation measure
	<p>Toowoomba Canary-grass, it is likely the species would dominate the site, and reduce the habitat available to Golden Sun Moth. Therefore, efforts will be focused on reducing the cover of Toowoomba Canary-grass across the offset area.</p> <p>There is a substantial population of Flatweed on the site. It is acknowledged that spot spraying of Flatweed can be difficult due to the wide area it covers at certain times and the potential impact on other herbaceous species, and this is best controlled by grazing.</p>
<p><b>Overstocking (causing loss of habitat plants, changes to soil and plant structure or increase nutrient load)</b></p>	<p>Fencing will be maintained around the offset site, to ensure livestock grazing is managed within the offset site. The division of the site with low impact fencing into smaller paddocks will allow greater grazing control. When grazing is permitted, numbers will be monitored to ensure biomass levels and native grasses are not heavily impacted, and that the grazing does not impact upon plant structure within the offset site. If negative impacts from grazing are observed, livestock will be removed (Section 5.5.6).</p> <p>Without grazing control, the site may experience overgrazing where native species are damaged and inappropriate grazing occurs (i.e. late spring) affecting the seed distribution and regeneration of the native grassland, and ultimately reducing the amount of available Golden Sun Moth habitat.</p>
<p><b>Changes to agricultural practices (e.g. ploughing, overgrazing)</b></p>	<p>The offset site will be fenced and ultimately be protected through a Trust for Nature covenant. The landholder will commit to managing the site for conservation and will not engage in cropping within areas set aside for the offset. Grazing will be permitted with conditions, such as not during wet periods or when biomass levels are low.</p> <p>The protection of the offset site will secure the land for conservation purposes, which does not permit ploughing and limits grazing. Without this protection, the site is at risk to either threat.</p>
<p><b>Rank growth (loss of inter-tussock spaces)</b></p>	<p>Loss of inter-tussock space may occur if Toowoomba Canary-grass and noxious weeds Serrated Tussock-grass are not controlled and biomass across the offset site is not managed. General biomass will be managed through pulse grazing (Section 5.5.6).</p>
<p><b>Soil compaction</b></p>	<p>Soil compaction may occur as a result of grazing and will be monitored during and after grazing events. If soil compaction is evident, then grazing numbers will be reduced. This will be monitored in conjunction with the biomass control (Section 5.5.6)</p>

## 5.5.2 Natural Temperate Grassland of the Victorian Volcanic Plain

This management plan has been formulated to address several priority actions outlined within the Conservation Advice for the community (DSEWPaC 2011):

- To protect and manage the NTGVVP community to maintain its natural geographical range.
- Protect and prevent impacts to habitat critical to the persistence of the community in the planning, construction and post construction phases of developments.
- Negotiate and implement conservation agreements or reserves for NTGVVP on privately owned land which do not allow high intensity grazing, cropping and pasture improvement activities and involve ongoing management.
- Identify, control and reduce the spread of invasive grasses including escaped pasture species.

- Work with fire authorities and private landholders to plan and undertake any burns proposed in areas of habitat critical to the persistence of the community in a way that will maintain or improve the habitat.

### 1.1.1.3 Existing Threats

The main threats to NTGVVP within the offset site 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 that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 2.

Maintenance and protection of the offset site will be achieved by:

- Stock-proof fencing around the boundary of the offset site and low impact fencing dividing the site into smaller more manageable paddocks;
- Weed control through active management;
  - Ensuring that new and emerging woody weeds do not exceed < 1 % cover;
  - Controlling all weeds to reduce cover (Section 5.5.4);
- Biomass control through light grazing of domestic stock (sheep only) with stock generally excluded from 1st October to 31<sup>st</sup> January;
- Controlling pest animals, particularly rabbits and foxes; and
- Managing native species understorey diversity and recruitment.

### 5-5-3 Fencing and Access

An existing permanent stock-proof fence currently exists around the perimeter of the broader conservation area, where additional offset sites occur. This fence includes several gates that provide dedicated access points for farm vehicles into the offset area for management purposes. Vehicle movements through grasslands will be avoided on hot and windy days due to the risk of fire (see risk assessment and actions in Section 3). The offset site and broader property remain private property and access or disturbance to the offset site by unauthorised persons is prohibited. The existing access and security (locked gates) arrangement is adequate to service the access requirements for management of the offset site.

Permanent fencing will be placed around the 33 hectare offset site and low impact six wire and star picket fences will divide the site (Figure 2) to allow for controlled grazing across sections of the offset site, with the waterpoint(s) to be located within an exclusion zone within the conservation area. Fencing along the southern border (adjacent to the stone wall) will be constructed in a way to prevent any damage to the wall and allow sheep to graze along the edge for weed control.

Table 6 below outlines the management actions, performance indicators, corrective actions and completion criteria for the Fences and Access Management Actions. The overall aim is to ensure the offset site is

adequately protected from threats of unauthorised vehicle access and over-grazing by livestock, and that the area is clearly delineated for management and monitoring purposes.

**Table 6.** Management actions and completion criteria summary for fences and access.

Management Action	Performance indicator	Corrective Action (where required)	Completion criteria
Maintain existing perimeter fence of the broader conservation area to control stock and vehicle access.	Monitoring and management reports detail any damage and repairs to fence	Damage observed to fence is repaired prior to next monitoring event	Stock proof fence maintained in good condition around perimeter of broader conservation area
Establish offset area boundary fence to manage stock access within offset site.	Monitoring and management reporting ensure location of boundary fence remains in correct location and confirm that stock access points are not compromising the condition of native vegetation	Boundary fence position corrected prior to next monitoring event and stock access points altered to prevent damage to native vegetation	Boundary of offset area clearly defined, and stock proof fence established to restrict grazing access

#### 5.5.4 Weed Control

##### 5.5.4.1 Objectives

The objective of weed control within the offset site is to reduce the cover of exotic vegetation and improve the existing quality of Golden Sun Moth habitat and NTGVVP. This will be achieved through a combination of direct weed control methods and controlled light grazing (to limit opportunities for weed establishment and seed set in exotic flora).

##### Woody weeds

No woody weeds have previously been recorded within the offset area. Monitoring for new and emerging woody weeds will be conducted by a qualified ecologist during detailed Vegetation Monitoring (Section 8.2) for the term of the OMP. Any new and emerging woody weeds observed will be controlled immediately following identification.

##### Herbaceous weeds

The aim of management is to reduce cover of herbaceous weeds below current levels. Current herbaceous weed cover within the offset site is estimated to be approximately 40% throughout the offset area. Weeds listed in Table 7 were found within offset site. These weeds will be controlled and monitored each year to ensure their cover is reduced, with a VQA weed score of 6/15 (25-50% cover) maintained by the end of the 10-year management period within the NTGVVP area and 6/15 (25-50% cover) in the GSM area. Weeds will be treated using methods listed in Table 8 before the plant has flowered and set seed. Impacts to indigenous plants will be minimised to the extent possible during treatment of weeds.

Annual weeds within the offset site are not considered to be a significant threat and will be managed using grazing and spot spraying to reduce their prominence.

Weed control methods will largely comprise targeted spot spraying with appropriate herbicides, grazing and physical removal, where appropriate. Spot spraying will be undertaken during spring and early summer, with a focus on killing weed plants prior to seed set. Care must be taken when spraying herbicide to ensure that the poison has a limited impact on native vegetation in the local application area to minimise non-target damage. A dye will be used in the spray to mark where spraying has occurred. Spot spraying will not occur on high wind days or in close proximity to threatened flora without protective measures in place (i.e. physical shielding).

In addition to spot spraying, a tractor or quad bike with an attached spray gun nozzle can be employed to target areas of high weed cover or in areas with dense weed cover restricting access. Tractors can also be used to move chemical in bulk to assist spot spraying teams. Biomass control is also considered to be an effective method for controlling and reducing weed levels and will include controlled livestock grazing (sheep).

The composition and distribution of vegetative cover across the offset site is likely to change over time in response to seasonal conditions or pulse grazing. Therefore, weed cover and species will be monitored annually (Section 8.1) and management activities adapted where necessary to ensure the desired outcomes outlined in this OMP are achieved.

#### New and emerging herbaceous weeds

Monitoring for new and emerging herbaceous weeds will be conducted by a qualified ecologist during detailed vegetation monitoring (Section 8.2) as well as on an ad hoc basis by the landowner throughout the year (during site management and habitat monitoring) for the term of the agreement. Any new and emerging weeds will be maintained to not exceed <2% cover. Note that several weeds occur in the surrounding paddock that may appear in the proposed offset area during some monitoring events in low numbers, including Paddy Melon *Cucumis* sp., Rye *Lolium* sp. Bathurst Burr *Xanthium spinosum* and Dock *Rumex* sp. These will be treated/managed to prevent establishment.

Any other significant environmental weeds (i.e. CaLP Act listed species or species on the WONS list) identified within the broader property during monitoring will also be controlled. The land manager may consult with a qualified ecologist regarding appropriate control techniques for any new or emerging weeds identified within the offset area. It is important to note that it is understood that the land manager may not have the expertise to identify new and emerging weeds and therefore any new weed species will be identified during the third-party habitat assessments and population monitoring.

**Table 7. Herbaceous weeds to be controlled within 33 ha offset area – method and timing**

Common name	Scientific name	% total cover at inception	Method	Timing
Annual Grasses	<i>Hordeum</i> spp., <i>Avena fatua</i> , <i>Aira</i> spp., <i>Briza</i> spp., <i>Bromus</i> spp.	25%	Controlled pulse crash grazing by sheep to limit opportunities for weed establishment (Section 5.5.7); spot spraying of herbicide.	Early Spring to avoid GSM flying season

Common name	Scientific name	% total cover at inception	Method	Timing
Flatweed	<i>Hypochaeris radicata</i>	Up To 45%	Pulse-grazing and targeted spraying with appropriate herbicide. <b>See below for further comments on Flatweed</b>	Early Spring to avoid GSM flying season Spot-Spray: Spring and early summer
Squirrel-tail Fescue	<i>Vulpia myuros</i>	25%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Serrated Tussock	<i>Nassella trichotoma</i>	<5%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Toowoomba Canary-grass	<i>Phalaris aquatica</i>	30%	Targeted spot spraying with appropriate herbicide. Pulse-grazing.	Spot-Spray: Spring and early summer; Graze: early Spring to avoid GSM flying season
Spear Thistle	<i>Cirsium vulgare</i>	<5%	Hand chip, or targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Chilean Needle-grass	<i>Nassella neesiana</i>	<5%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer

## Flatweed

Flatweed *Hypochaeris radicata* is a common herbaceous weed present in relatively high cover within the offset area. It is an herbaceous perennial native to northern Africa and Europe. It is considered naturalised in Australia and is one of the most prevalent weeds in the temperate zones of Victoria, NSW and Tasmania, although generally not a high threat weed. Flatweed is up to 80 cm tall with a rosette of lance-shaped leaves covered in short hairs. It is multi-stemmed with bright yellow flowers. The species produces large quantities of wind-dispersed seeds and a long taproot, which facilitate rapid spread into new areas and long-term persistence. It is often found in urban settings (e.g. gardens, lawns, footpaths), disturbed areas (e.g. roadsides, pastures) as well as natural habitats, including native grasslands and conservation reserves.

Recommended control techniques for Flatweed include a combination of spot-spraying, mechanical removal and light grazing (HerbiGuide 2021). Mechanical control can be undertaken for small infestations by removing the entire plant. Care must be taken to ensure the long taproot is removed to several inches below the root crown, as the plant can re-sprout from remnant tissue. While most effective when undertaken in early spring as soon as the leaves have appeared, this strategy can be used year-round. Herbicides for broadleaf weeds (e.g. dicamba, MCPA, glyphosate) can also be applied for infestations of larger areas. No current known biological control agents are available in Australia for the plant. Grazing is not recommended as the sole approach, as this can promote Flatweed in some circumstances (HerbiGuide 2021).



At the time of the most recent site visit (February 2022), Flatweed was estimated to cover up to 45% of the overall offset area. The cover of the species is known to fluctuate seasonally and it can be hard to predict its abundance each year. This is a common issue within grassland reserves and can make management efforts seem futile when viewed on a year by year basis, opposed to a more long-term overview.

The land-use commitments set out in Section 5.4 set to maintain a VQA weed score of 6/15 in the NTGVVP offset area, and 6/15 in the remaining GSM offset area by the end of the 10 Year active management period. Achieving this score is feasible for all species listed in Table 7, with the exception that Flatweed may be the outlier. It is proposed that future auditing of the offset site factor in the inherent difficulty that controlling Flatweed poses and whether or not it is an unusually wet period (as flatweed responds very well to wetter years), and recommends that auditors assess the overall trend of Flatweed cover within the offset site if it is the only factor affecting the weed cover targets.

If the management of the offset site is in accordance with the OMP (i.e. active management is being undertaken using methods recommended in the OMP or through reviewed adaptive management approaches), and Flatweed is showing a general decline in cover over the course of the active management, then it is suggested that this be viewed as sufficient in meeting the objectives of the OMP (in the instance that all other weeds meet or are on track to meet the land-use commitments).

### High Threat Weeds

High threat weeds referred to within this management plan follow the definition provided within the *Vegetation Quality Assessment Manual* (DSE 2004). High threat weeds are considered as those weed species listed within the relevant EVC (EVC 132\_61: *Heavier-soils Plains Grassland*) benchmark to have a “high impact” regardless of their invasiveness.

High threat weeds listed within the EVC benchmark applicable to the offset area are:

- Spear Thistle *Cirsium vulgare*
- Toowoomba Canary-grass *Phalaris aquatica*
- Yorkshire Fog *Holcus lanatus*
- Chilean Needle-grass *Nassella neesiana*
- Serrated Tussock *Nassella trichotoma*
- Bathurst Burr *Xanthium spinosum*\*

\*occurred in broader paddock outside of proposed offset area

### Spot Spraying

The application of herbicides is an effective and efficient control technique for a range of woody, herbaceous and grass weeds. The correct use and application of herbicides can provide targeted control of a range of species. However, all herbicides must be used in accordance with the manufacturer’s specifications and occupational health and safety policies.

Application methods for herbicides include spot spraying with a knapsack, dabbing of weeds in sensitive areas with a foam-tipped application device, rig spraying with a pump for larger areas, dabbing of cut stumps and injection of woody weeds.



Timing of the interval of spot spraying is dependent upon many factors such as plant age and growth seasons, plant stress levels and climatic factors. All these factors need to be considered when developing methodologies for the application of herbicides to ensure successful outcomes. Surrounding native plants' susceptibility to herbicides and ongoing uses of the treated areas must also be considered when choosing the right herbicide to be used in a weed control program, as some herbicides are residual and may persist within the soil for varying durations.

**Table 8.** Management actions and completion criteria summary for weed control in 33 ha offset area.

Management Action	Performance indicator	Corrective Action	Completion criteria
<p>Monitor offset site for weed cover and presence of new and emerging weeds.</p> <p>These inspections must be undertaken quarterly for each year of the OMP.</p>	<p>Date of monitoring event, observations and follow up actions presented in each annual report prepared for the OMP.</p> <p>Monitoring completed by land manager during management activities and ecologist during monitoring events</p>	<p>Missed reporting periods to be captured as soon as possible.</p>	<p>Detailed log of weed cover included in each report submitted as a part of the annual reporting requirement for the OMP.</p>
<p>Reduce current cover of high threat herbaceous weeds to 20% cover or less within the offset site through methods such as spot spraying and pulse grazing.</p>	<p>Monitoring and management reports detail percentage cover of high threat herbaceous weeds observed at each assessment, and management technique used to control spread.</p>	<p>Review management techniques and adjust method if cover is not decreasing.</p>	<p>Cover of high threat herbaceous weeds does not exceed 20% cover of the offset site (VQA weed score of 6/15 achieved for NTGVVP area and 6/15 for remaining GSM area)</p>
<p>Monitor for and manage new and emerging high threat herbaceous weed cover to &lt;1%</p>	<p>Monitoring and management reports detail new and emerging high threat herbaceous weeds observed, and management techniques used to control.</p>	<p>New and emerging high threat herbaceous weeds observed during monitoring events that remain untreated are flagged with land manager for removal and removed before next monitoring event.</p>	<p>Cover of new and emerging high threat herbaceous weeds is &lt;1% within the offset site.</p>
<p>Control herbaceous weeds</p>	<p>Monitoring and management reports detail current cover and control techniques used</p>	<p>Review and adjust weed control methods if herbaceous weed cover increases above baseline levels (currently 40%).</p>	<p>Cover of herbaceous weeds is reduced to maintain VQA weed score of 6/15 for NTGVVP area and 6/15 for remaining GSM area</p>
<p>Monitor for new and emerging woody weeds and control all occurrences.</p>	<p>Monitoring and management reports detail new and emerging woody weeds observed, and management techniques used to control.</p>	<p>New and emerging woody weeds observed during monitoring events that remain untreated are flagged with land manager for removal and removed before next monitoring event.</p>	<p>No woody weeds present within offset site at end of 10 Year OMP.</p>

## 5.5.5 Pest Animals

### 5.5.5.1 Objectives

The objective of pest animal management is to control pest animals (e.g. rabbits, foxes) within the offset site, as required, to minimise negative impacts to the Plains Grassland communities, which provides habitat for GSM and NTGVVP. The *Catchment and Land Protection Act 1994* lists rabbits and foxes as established pest animals and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land.

No active rabbit warrens were observed within the Offset area. However, they are known to occur within the local area. An integrated approach in accordance with BushBroker Information Sheet 7 - Standards of Management – Rabbits, will be followed which will involve fumigation, hand collapsing of burrows and baiting. Any rabbit carcasses found within the offset site will be removed to prevent poisoning of native predators. These actions are in accordance with the Commonwealth's *Threat abatement plan for competition and land degradation by rabbits* (DAWE 2016).

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 collapsing.

Foxes are a threat to native fauna and must be controlled if identified within the offset site. If identified, fox dens will be destroyed through fumigation and hand collapse.

To reduce the likelihood of pest animals inhabiting the offset site on a regular basis, any artificial piles of logs and rocks that may be used as harbour by pest animals will be removed or dispersed.

Both rabbits and foxes will be controlled as detailed below (Table 9).

**Table 9.** Pest animals to be controlled – species, method and timing

Common name	Method	Timing
Rabbits	Baiting. When baiting collect and dispose of carcasses to prevent poisoning of native predators.	Controlled throughout the year if detected during a routine landowner inspection
Rabbits and Foxes	Fumigation and collapse of rabbit burrows and fox dens if identified. Remove or disperse surface harbour.	Controlled throughout the year if detected during a routine landowner inspection
New and Emerging pest animals	Monitor and control	Immediately, if a new threat is identified during a routine landowner inspection

### 5.5.5.2 Actions

- Land manager to undertake and document routine inspections for the presence of pest animals. These inspections must be taken at a quarterly frequency at a minimum.
- Control and seek to locally reduce pest animals using appropriate control techniques, including poison baits, warren fumigation and collapsing, or similar methods, without soil disturbance; and

- Fumigate rabbit warrens according to best practice management techniques. Fumigation works will be conducted by the landowner or a suitably qualified operator where rabbit or fox activity is identified.

### 5.5.5.3 Performance Indicators

- Evidence of routine pest animal inspections presented in the annual report each year. Apply pest animal control methods in response to observations of the routine inspections.
- Reduction in the abundance of pest animals observed during routine pest animal inspections when compared to baseline rabbit abundance survey, and no detectable impacts to the native grassland community;
- All monitoring and management activities are effectively documented; and
- No active rabbit warrens present within the site at Year 10 of the OMP.

### 5.5.5.4 Adaptive Management

- If pest animal management fails to achieve a reduction, or effectively control rabbit or fox numbers, or if impacts to NTGVVP community and/or GSM habitat are attributable to an increase in pest animals activities, a review of the current procedures and management measures will be undertaken and modified as required;
- Increase active monitoring of pest animal activity;
- Incorporate additional control measures (i.e. spotlighting and shooting); and
- Improve existing fencing of broader offset property to exclude pest fauna.

## 5.5.6 Biomass Control

### 5.5.6.1 Objectives

The objective of biomass control within the offset site is to promote and maintain floristic diversity, and inter-tussock spaces for germination and recruitment of native flora associated with the NTGVVP community. This will also have positive outcomes for managing GSM habitat. In addition, these actions will improve habitat quality for existing flora present within the offset site and assist with minimising the growth of weeds.

Biomass management is essential to enhance the ecological values throughout the offset site, including the maintenance and improvement of GSM habitat and NTGVVP. Biomass management is also required to maintain inter-tussock spaces and prevent excessive competition to grassland forbs. Biomass control will aim to maintain approximately 20% of bare ground or inter-tussock space to allow sufficient space for recruitment of herbs and grasses. If GSM or NTGVVP offset area is found to be less than 20% bare ground then biomass reduction must be implemented at the earliest possible opportunity (with consideration of seasonality in order to minimise risk to ecological values, life and assets).

The current grazing regime and historical land use is not considered to have an adverse impact on the NTGVVP community and/or GSM habitat, and given that native vegetation has persisted across the property, it is considered an appropriate method for managing biomass.

## Pulse Grazing

A detailed study has been undertaken on the ecological impacts and benefits various grazing regimes on grasslands within the property, in addition to similar properties (Mavromihalis *et al.* 2013). It was concluded that a period of grazing exclusion may be beneficial for enhancing conservation values of grasslands. Further, exclusion of grazing during spring (September-November) is most beneficial, however, due to seasonal variation in vegetation composition, fixed grazing strategies were considered inappropriate, as they do not allow for temporal fluctuations. For example, in occasional years, excluding grazing during summer, rather than spring, may be beneficial in controlling annual grasses following particularly heavy spring rains; although, grazing during spring every year may lead to a decline in species richness. As such, the grazing regime within this OMP is to generally exclude stock during spring, however, seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition. However, grazing during spring may not occur during more than two consecutive years; this aims to achieve a balance between having sufficient flexibility to respond to seasonal variation in plant growth and mitigating risks associated with spring grazing over extended periods.

In discussions with the Landowner it is recommended that in wet years where large numbers of sheep might cause substantial pugging damage, it is preferable to graze with lower numbers and lightly graze through winter to prevent increases in weeds and biomass to uncontrollable levels, than to have no grazing at all. The logic being this land has been grazed all year round since sheep arrived in the Western District.

Grazing will be undertaken in a controlled manner following the grazing management plan detailed in Table 10, to ensure that biomass accumulation control within the offset site is consistent with the standards for management of ecological grazing provided by DELWP (DSE 2009). 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 prohibited within the offset site at all times.

Grazing will occur over a short duration and exceed the standard stocking rate to prevent selective grazing within the offset site. The maximum length of pulse grazing is four weeks with at least two weeks rest between cycles.

Livestock (sheep) may be permitted into the offset site for control of herbaceous/grassy weeds and biomass management under this agreement, with grazing to be generally excluded between 1<sup>st</sup> October and 31<sup>st</sup> January (see Section 5.5.7 for further details on stock exclusion periods).

**Table 10.** Grazing Management Plan within the offset site.

Grazing Requirement	Target
Period where grazing by domestic stock is not generally permitted	October 1 to January 31 annually in perpetuity. However, periodic grazing, including between October and January may be required in order to adapt to annual variation in vegetation structure and composition.
Pulse grazing cycles required	3 (minimum). This is dependent site and seasonal conditions, in that the offset site will not be grazed if there is a risk of adverse impacts to native vegetation and habitats. Wetter years may require a different approach to achieve biomass reduction
Minimum rest from grazing between pulse grazing events	2 weeks

Grazing Requirement	Targets
Maximum continuous pulse grazing event	4 weeks
Biomass management targets	Aim for total vegetation cover of no greater than 80% after grazing
Target inter-tussock space	Minimum of 20% of total offset site cover in areas where tussock grasses exist.

Stock must be removed should total vegetation cover fall to or below 70%. Stock pens and heavy vehicle traffic must be confined to the areas outside that covered within this OMP. Following any high rainfall events, stock will be removed or the numbers reduced to light grazing from the offset site immediately.

### Burning

The NTGVVP community would have historically been subjected to natural burning regimes due to its general location. As such, it is considered that an appropriate ecological burning regime will appropriately control biomass and enhance and promote the maintenance of species diversity within the offset site. 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 that which occur within, and directly adjacent to the offset site. It must be noted that biomass management through ecological burning is not a compulsory component of this OMP.

It is noted that a population of Striped Legless Lizard occur within the broader offset area, with the potential to occur within the proposed offset site. **In order to avoid impacting Striped Legless Lizard, it is crucial that any prescribed burns are low-intensity and patchy.** Furthermore, **prescribed burns should be conducted in early spring (September/October) to avoid summer breeding season, or early autumn (March/April) to avoid removing large areas of vegetation during winter.** Where possible, burns should be conducted during the middle of the day or evening rather than early morning when lizards might be cold and slow moving.

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, especially for species that are difficult to control such as Toowoomba Canary-grass and Flatweed. Burning and/or grazing will allow greater access and efficiency for weed control and increased natural regeneration of indigenous plant species. Periodic burning that is followed by spot spraying will be important for weed species that are difficult to control until they are replaced by native species.

Burning for biomass reduction will only be undertaken where and when there is a need to reduce cover of native grasses (i.e. the dominance of a few species resulting in a species-poor monoculture) in order to improve the condition of the understory. The aim in using fire is to increase diversity whilst ensuring biomass is maintained at an appropriate level.

The NTGVVP offset site must not be burnt more than once every five years (including planned burns following any wildfire events), unless there is above average rainfall and intertussock space is reduced indicating a more frequent burn is required. In general, the most appropriate time to burn is autumn when the weather is mild, most native plants have dropped seed. However, if special circumstances require

biomass reduction during other times of the year, burning may be undertaken with approval in consultation with Trust for Nature.

The extent of all fires must be recorded, including planned burns and wildfires. Prior to any ecological burn taking place, a burn plan must be prepared, including, but not limited to:

- Division of the offset area into burning zones with principles to maximise ecological benefits;
- Minimisation of risks to life and property (e.g. wind direction for burning to avoid smoke over public roads);
- Measures to minimise impacts to biodiversity, including use of fire breaks, minimising disturbance/compaction by vehicles;
- A fire frequency of no greater than once every 5 years will be implemented for any one area across the offset site;
- Conduct any burns in a patchy or mosaic fashion over no more than one third to half the site on any occasion;
- Prescribed burns are to be conducted in early spring (September) or early autumn (March/April) to avoid the Striped Legless Lizard summer breeding season and before weedy plants set seed; and,
- Prescribed fire can only be implemented when conditions are dry enough and open soil cracks are present and outside of the Victorian Declared Fire Danger Period.

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. It is accepted that a wildfire event is out of the control of the landowner and is not subject to these conditions. Burnt areas will be protected from grazing for at least 6 months to allow species regeneration and recruitment to occur.

#### 5.5.6.2 Actions

- Land manager to undertake routine inspections (minimum quarterly frequency) for grazing cells to determine the pulse grazing requirements for the upcoming season;
- Biomass will be managed by pulse grazing with sheep for a maximum period of four weeks followed by a minimum two-week period of rest, or in wet years by light grazing in smaller numbers over a longer period;
- Over the 10 year management period, grazing will be excluded annually between October 1 to January 31. However, depending on seasonal variations (e.g. high biomass) grazing may still be undertaken across the offset area during this period to ensure that vegetation structure and cover (i.e. inter-tussock space) is maintained (Mavromihalis *et al.* 2013). Ideally, grazing will not occur between October 1 to January 31 for more than two consecutive years, however, an adaptive management approach will be taken to maintain habitat values across the offset area (see Section 8.5.3);
- A fire frequency of no greater than once every 5 years will be implemented for any one area across the site;

- Prescribed fire can only be implemented when conditions are dry enough and open soil cracks are present and outside of the Victorian Declared Fire Danger Period;
- Burnt areas will be protected from grazing for at least 6 months to allow species regeneration and recruitment to occur; and,
- Landowner to monitor for evidence of soil compaction following grazing events. Stock numbers are to be reduced if soil compaction is observed. This can be documented in annual reports.

### 5.5.6.3 Performance Indicators

- Document observations from routine site inspections of biomass and present in the annual report;
- Achieve at least a 1 point increase in the lack of weeds score by at by the Year 5 Detailed Vegetation Monitoring for the 17 ha NTGVVP offset area.
- Maintain a lack of weeds score of 6/15 by the end of the 10 year management period (i.e. <50% cover of weeds and ≤50% of weed species present are 'high threat' weeds based on the EVC benchmark) within the NTGVVP offset area and maintain the score at the offset commencement score of 6/15 by the end of the 10 year management period for GSM offset areas outside of the NTGVVP offset area;
- Maintain an understorey score of at least 15/25 (i.e. in accordance with the habitat hectare method) by the end of the 10 year management period (i.e. ≥50-90% of life forms present and of those present <50% are substantially modified);
- Stock grazing is excluded between October 1 to January 31, except where necessary for appropriate biomass reduction and the maintenance of inter-tussock space. Grazing should not occur between October 1 to January 31 in more than two consecutive years in the same areas;
- A fire frequency of no greater than once every 5 years will be implemented for any one area across the offset site;
- Maintain organic litter at approximately 10% cover to meet the EVC benchmark for *Plains Grassland*. This will be recorded during detailed vegetation monitoring to be undertaken in years 1,3, 5, 8 and 10 of this OMP; and
- All grazing and burning events effectively documented.

### 5.5.6.4 Adaptive Management

Highly seasonal conditions are not uncommon across western Victoria and can result in variable habitat conditions within and between years. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the landowner.

## 5.6 Management Actions Table

Management actions proposed to compensate for the loss of native vegetation and habitat under Commonwealth legislation at the offset site are presented in Table 11. The actions constitute the minimum management requirements for the offset site over the mandatory 10-year management period and are appropriate for the management of the NTGVVP community and GSM population.





Table 11. Management Actions Table

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Fencing</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGWVP	Establish fence around the boundary of the offset site in accordance with advice from a qualified ecologist and land surveyor Refer Section 5.5.3.	Within 18 months on commencement of OMP	Facilitate management and monitoring of the offset site. Delineate location of temporary exclusion fence.
1-10	30 ha of GSM habitat; 33 ha of NTGWVP	Maintain fencing in good condition to appropriately exclude unintended grazing by livestock over the 10 year management period. Refer Section 5.5.3	Ongoing	Maintain fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing (excluding the southern boundary along the stone wall where a simple stock-proof fence will be used)



Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Woody Weeds</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control new and emerging woody weeds Refer Section 5.5.4	Ongoing	Maintain woody weeds (<1% cover)
<b>Herbaceous Weeds</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control herbaceous weeds. Refer to Table 7 for list of herbaceous weeds, their control method and timing of actions Refer Section 5.5.4	Refer to Table 8	Maintain high threat weeds to levels outlined with section 5.5.4. Minimise off-target damage (avoid all native plants)
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control all new & emerging herbaceous weeds Refer Section 5.5.4	Ongoing.	<2% cover of all new and emerging herbaceous weeds at the end of Year 10
<b>Pest Animals</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control rabbits and foxes. Refer to Table 5 for a list of control methods and timing of actions Refer Section 5.5.5	Refer to Table 9	No surface disturbance within the offset site; No active rabbit warrens to be present; No active fox dens to be present; No rubbish/artificial harbour present; Minimal artificial piles of logs and rocks
1-10	30 ha of GSM habitat;	Monitor and control rabbits and foxes Refer Section 5.5.5	Ongoing	Reduction in the abundance of pest animals, and no detectable impacts to the native grassland

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
1-10	33 ha of NTGWP	Monitor and control all new and emerging pest animals Refer Section 5.5.5	Ongoing	Control numbers of any new & emerging pest animals
1-10	30 ha of GSM habitat; 33 ha of NTGWP	Pulse grazing in dry years and light grazing in wet years. Refer Section 5.5.6	The maximum length of continuous grazing is four weeks with at least two weeks rest between cycles. Stock generally excluded during October - January Stock removed immediately following any high rainfall events.	Stock must be removed should total vegetation cover fall to or below 70% Sufficient bare ground (approximately 20%) maintained in order to maintain space for recruitment of herbs and grasses. Maintain or improve species richness and improve species diversity. No loss of native plant diversity as a result of grazing regimes. Reduction in weed cover. All grazing events to be documented.
1-10	30 ha of GSM habitat; 33 ha of NTGWP	Monitor organic litter and grass density and enact ecological burn or other biomass reduction plan if appropriate Refer Section 5.5.6	Outside of the GSM active season and SLL breeding season. Do not burn an area more than once every 5 years	Sufficient bare ground (approximately 20%) maintained in order to maintain space for recruitment of herbs and grasses. Maintain or improve species richness and improve species diversity. Flush out weed seed stored in seed bank. No loss of native plant diversity as a result of burning regimes. Reduction in weed cover. All burning events to be documented.

**Biomass Management**

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Detailed native vegetation and GSM monitoring</b>				
Years 1, 3, 5, 8 and 10	30 ha of GSM habitat; 33 ha of NTGVVP	<p>Monitoring</p> <p>Refer Section 8.2, 8.3 and 8.5</p> <p>Landowner responsible for arranging third party monitoring, while the Approval Holder is responsible for funding monitoring and reporting.</p>	Spring/Summer	Assessment of the effectiveness of the management actions. Monitoring reports will include a review of past management works against the performance targets and objectives contained within this OMP, and recommended changes to management actions where required. <p>Landowner to submit Annual Reports including surveys to TFN and the Approval Holder. The Approval Holder is responsible for submitting all reporting to DAWE.</p>

Year From Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Annual reporting</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVWP	Prepare and submit an annual report and photo monitoring to TfN and Approval Holder. Refer Section 8.5.	Submit at least 2 months prior to on-title covenant anniversary date, depending on the commencement date of the offset	<p>Report provides enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the commitments for the offset site. Report will also include photos that are reviewed by a qualified ecologist.</p> <p>Allow for ongoing assessment of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports.</p> <p>Obligations of the landowner have been met and the obligations form is signed, dated and submitted with the annual report</p>
5	30 ha of GSM habitat; 33 ha of NTGVWP	Review effectiveness of OMP. Refer Section 8.5.	End of Year 5.	<p>If this OMP is not meeting its objectives, a review will be undertaken, and this OMP will be updated as required and implemented for the remaining 5 years of management, the Approval Holder has the responsibility of instigating this.</p>

## 6 CONTINGENCY RESPONSE AND CORRECTIVE ACTIONS

The landowner will use an Adaptive Management Approach to allow the flexibility to respond appropriately and effectively to the uncertainties involved in ecological processes. This will allow management actions to adapt to changing circumstances that may occur on the site.

If after Year 5 of management, the actions detailed in this OMP are not leading to the ongoing maintenance and of the GSM habitat, and improvement of the NTGVVP community, the Approval Holder, in consultation with the landowner and TfN will instigate a review of the OMP and where required, update this management plan for implementation of the remaining five years of management. Any revisions of the OMP proposed must be submitted to DAWE to seek the agreement of the Minister.

Any proposed changes to the management contrary to that specified within this plan must be approved by the Approval Holder and TfN, prior to implementation. Any proposed uses or development of the site which conflict with the landowners' commitments or maintenance/improvement of the GSM habitat and/or NTGVVP community are not permitted under this plan.

Alternative management measures, as part of an adaptive management approach, may be implemented if:

- The performance indicators outlined within Section 5 are unable to be met based on methods outlined within this plan;
- A new management technique has been identified which is more effective in meeting the objectives of this OMP, and relevant recovery plans, threat abatement plans, conservation advices and does not increase risk of impacts to GSM habitat and NTGVVP communities. A review of the benefits and risks of the proposed management technique must be prepared and submitted to the Approval Holder; and,
- The proposed management technique has been approved by the Approval Holder and TfN.

Alternative management measures and corrective actions will be included in the monitoring report.

Where an adaptive management approach has been implemented, the success, or failure, of the approach will be outlined within subsequent third-party monitoring reports. The third-party monitoring reports will include recommendations on whether the approach should be continued, or whether subsequent alternative management is recommended.

### 6.1 Managing Uncertainty

An assessment of potential risks associate with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within relevant sections of this OMP address the risks.

The proponent and the landowner acknowledge that achieving the weed control targets can be difficult in a changing ecosystem like grasslands. The Landowner agrees to implement the OMP and carry out all activities as outlined and maintain records of those activities. The proponent acknowledges that the Landowner may not be able to achieve the weed control targets outlined and will not seek to hold the Landowner liable in the event those weed control targets have not been achieved in Year 10.

## 7 EMERGENCY CONTACTS AND PROCEDURES

Should any environmental incident occur on-site that poses a risk to the objectives of this OMP, the relevant contacts (Table 12) must be notified as soon as possible, and no later than 24 hours following the event or the landowner becoming aware of the event. At a minimum, TfN and the Approval Holder must be notified, and if required, the relevant emergency services. Incident responders must be advised of the on-site protections to avoid inadvertent damage to ecological values (e.g. creation of graded earthen fire breaks within the site, which unless absolutely necessary, must be avoided).

**Table 12. Emergency contacts**

Contact	Role	Telephone
Country Fire Authority (CFA)	Bushfire emergency	000
Victoria Police	Various (e.g. unauthorised access)	000
Approval Holder	Approval Holder	13 44 99
TfN	Offset Monitoring Responsibility	(03) 8631 5888
Landholder	Offset Management	Undisclosed

## 8 MONITORING AND REPORTING

Ongoing monitoring is required to determine whether the GSM habitat, and NTGVVP community quality persists and remain viable over time and to verify the objectives of this OMP are being met.

Site monitoring will include:

- General habitat monitoring (i.e. as described in Section 5.5.7) by the landowner (or an appointed qualified entity on behalf of the landowner) annually; and,
- Detailed monitoring to be conducted by a qualified ecologist in Years 1, 3, 5, 8 and 10 of this management plan. This will include a detailed habitat hectares assessment in each year of the detailed monitoring.

Further details on the monitoring actions are outlined below.

### 8.1 Landowner Annual Monitoring of Habitat and Effectiveness of Management actions

A qualified ecologist will establish eight permanent photo-points across the offset site. These points will be physically marked by the installation of a star picket and marked via GPS, numbered and shown on a figure. Photographs taken by the landowner from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October/November annually and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same direction, trajectory and camera settings as is practicable. Photographs will focus on a 5 x 5 metre area.

Annual monitoring must be undertaken by the landowner (or an appointed entity on behalf of the landowner) over the 10 year Offset Management Period, and must include an assessment of:

- Photographs taken at established photo-points;
- The extent, severity, trend and presence of current weed species, recognising the Landowner is not a weed expert;
- The extent, severity, trend and presence of pest animal activity;
- Biomass levels, visually assessed across the site;
- Evidence of unpermitted human/stock access; and,
- Any new threats.

The annual monitoring completed by the landholder will be undertaken for each year of the 10 years of this Offset Management Plan.

Photographs and Annual Reports are to be submitted to TfN and the Approval Holder at least two months prior to the anniversary date of the lodgement of the agreement on title to allow time for compliance to be assessed before the anniversary date, depending on the end date for the 10 year Offset Management period.

The Annual Report addresses progress against the commitments set out in this agreement. Annual Reports must provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for each zone.

A template for a landowner monitoring and reporting form is shown in Table 13. Information to be provided in the reporting form includes:

- A copy of the Management Action Table (Table 12) from the OMP with information on which actions have been completed for year/s of this reporting period;
- A description of the specific monitoring results from third party surveys undertaken (i.e. NTGVVP condition assessment);
- Success of weed and pest animal control work;
- **Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);**
- Any problems or issues experienced (i.e. new infestation of weed species, etc.); and,
- Provide photographs showing evidence of works.
- Copies of third party monitoring for NTGVVP and GSM as required.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified, the landowner will document the justification and the actions that will be undertaken as a result of the incomplete action.

All records/evidence of management actions must be maintained and be submitted to TfN and/or Approval Holder upon request, and any proposed changes to management must be submitted to TfN and/or Approval Holder prior to the changes being undertaken.



**Table 13.** Template for landowner monitoring and reporting.

Landowner of offset site	
Location and address of offset site	
Offset site number (if applicable)	
Offset plan reference number (if applicable)	
Responsible Authority	
Report #	
Signature	
Date	
Details of works undertaken	<p><b>NTGVVP Area:</b></p>
Monitoring and Reporting Checklist	<p><b>GSM Area:</b></p> <ul style="list-style-type: none"> <li>• Detailing actions completed during the reporting period;</li> <li>• Results of NTGVVP area third-party vegetation condition assessment in the appropriate years (Habitat Hectare Assessment);</li> <li>• Results of third-party GSM population monitoring in the appropriate years;</li> <li>• A description of the specific monitoring results from third party ecological surveys undertaken;             <ul style="list-style-type: none"> <li>• Results of weed and pest animal control work;</li> </ul> </li> <li>• Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);</li> <li>• Any problems or issues experienced (i.e. new infestation of weed species, etc.);</li> <li>• Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation;             <ul style="list-style-type: none"> <li>• Photographs showing evidence of works; and,</li> </ul> </li> <li>• Progress against the performance indicators set out in this OMP.</li> </ul>

## 8.2 Detailed Vegetation Monitoring (Years 1, 3, 5, 8 and 10)

Detailed NTGVVP monitoring of the 17.5 ha offset site will be instigated by the Approval Holder and conducted by a qualified ecologist in Years 1, 3, 5, 8 and 10 of this management plan, and will document the following:

- Overall assessment of the quality and quantity of vegetation and composition of species (i.e. Habitat Hectare assessment\*);
- Biomass levels, assessed through 14 x 1 m<sup>2</sup> sampling plots equidistant along the offset site;
- The extent, severity, trend and presence of current weed species and any new and emerging weed species; and,
- All third-party monitoring as required in this OMP is to be arranged by the landowner and funded by the Approval Holder.

*\* Department of Sustainability and Environment 2004. Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Department of Sustainability and Environment, Melbourne Victoria*

## 8.3 Golden Sun Moth Population Monitoring (Years 1, 3, 5, 8 and 10)

In addition to native vegetation monitoring outlined in Section 8.2, appropriate monitoring of GSM will be undertaken within the entire 33 ha offset area in years 1, 3, 5, 8 and 10 of this management plan, or thereafter upon written agreement with the Approval Holder. The GSM monitoring detailed below will to be undertaken by suitably qualified ecologists.

Specific survey procedures will follow approved monitoring guidelines for GSM (DEWHA 2009). The following measures will be undertaken as part of population and habitat monitoring for GSM at the offset site:

- Surveys are to be conducted by suitably qualified ecologists during the local flying season (November to early January);
- Surveys will concentrate in areas identified as supporting indigenous grassland, namely those supporting wallaby-grass which is a known food source for GSM;
- Surveys will be conducted over a minimum of four separate days during the known flight season (i.e. November to early January) at least a 4 day interval;
- Observers will walk/drive transects spaced at 50 metres apart to and count observations for GSM recorded across the entire offset site.
- Surveys will be undertaken at a time which is considered suitable for detecting the species (i.e. when adult males are flying), and when GSM was observed flying at nearby locations. (The male of this species generally flies between 11am and 3pm on calm, warm (over 20°C), sunny days);
- All third-party monitoring and reporting as required in this OMP will be arranged by the landowner and funded by the Approval Holder.
- GSM monitoring should consist of 4 visits per year for years 1 and 3 and then at least 2 visits per year for the remainder of the offset.

## 8.4 Baseline Rabbit Abundance and Ongoing Monitoring

The CaLP Act requires that landowners take all reasonable measures to control or eradicate any pest animal population on their land. The control of declared pest animal is a requirement of this OMP alongside the legal requirement under the CALP Act.

### 8.4.1 Baseline Rabbit Abundance Survey

Baseline data on the abundance of rabbits and distribution of warrens throughout the site must be established in order to provide to text to future assessment of the effectiveness of control actions prescribed in Section 5.5.6. A baseline abundance survey must be undertaken by a qualified ecologist during Year 1 of the OMP.

The baseline abundance survey will:

- Assess the entire 33 hectare offset area and an area of 100 metres surrounding the offset area within the overall property;
- Map with handheld GPS existing warrens and area of harbour (i.e. rock piles or woody weeds including African Boxthorn and Sweet Briar);
- Note the location and abundance of any observations of European Rabbit or European Hare within the offset site or overall property;
- Note observation of any secondary evidence of rabbit presence (i.e. grazing, scats or diggings); and
- Provide the data collected to the landowner to inform the implementation of initial rabbit control efforts.

### 8.4.2 Ongoing Rabbit Monitoring

Monitoring of the rabbit population within the site will be undertaken by the landowner during routine site inspections outlined in Section 5.5.5.

Routine inspections for the purpose of pest animal population monitoring will be undertaken by the landowner at a minimum quarterly frequency.

The routine inspections will:

- Note the presence of any new warrens within the site; and
- Note the location and abundance of any observations of European Rabbit or European Hare within the offset site or overall property.

Observations of rabbits and any other pest animals recorded during the routine site inspections must be presented in the annual report (8.1).

## 8.5 Reporting

### 8.5.1 Annual Reporting

This OMP requires the landowner to submit a report annually to TfN and the Approval Holder for each year of the 10 Years of this Offset Management Plan. Any monitoring and reporting beyond the 10 years (i.e. until the end of the approval) will be the responsibility of the Approval Holder (not the landowner) to ensure that any additional information required by DAWE and/or Trust for Nature is provided.

Reports are to be submitted at least two months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date. The Approval Holder will forward the annual report to DAWE. Reports will summarise the results of the annual monitoring as per Section 8.1 above and progress against the performance indicators set out in this OMP, as outlined in the Landowner Reporting Template.

The annual reports will provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for the offset site (listed in Section 5.4).

Information to be provided in the annual reports includes:

- Detailing actions completed during the reporting period;
- Results of NTGVVP area third-party vegetation condition assessment in the appropriate years (Habitat Hectare Assessment);
- Results of third-party GSM population monitoring in the appropriate years;
- A description of the specific monitoring results from third party ecological surveys undertaken;
- Results of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.);
- Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation;
- Photographs showing evidence of works; and,
- Progress against the performance indicators set out in this OMP.

If any agreed management actions or commitments (excluding third party monitoring) are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the substituted actions that will be undertaken in order to compensate and ensure the required outcomes are achieved.

### 8.5.2 Detailed Assessment Reporting

Detailed assessment reports will summarise the findings of the Year 1, 3, 5, 8 and 10 Detailed Vegetation Monitoring (Section 8.2) and include a review of the effectiveness of management actions against

performance indicators of this OMP. This will be completed by a qualified ecologist and provided to the permit holder. A general assessment against the predicted EPBC offset gain calculator outcomes will also be provided. This component of reporting is to be completed by a qualified ecologist and funded by the Approval Holder. The Approval Holder will provide all detailed assessment reports to TfN and DAWE.

### 8.5.3 Corrective Action

Upon completion of the 10 Year OMP, ongoing annual reporting is required to be completed until the end of approval (i.e. 2040). The annual reporting will confirm the condition of the vegetation within the offset site following the Year 10 management targets, to ensure the ongoing land-use commitments are maintained (Section 5.4).

If one or several of the land-use commitments are reported as having declined since the end of the 10 Year management period, then corrective management action/s must be taken by the landholder and the proponent in an effort to meet the commitments. During the period of corrective action, detailed monitoring will be completed relevant to the commitment to be achieved. For example, if an annual reporting event between years 11 and end of approval record a VQA score of less than 6/15 for weed cover in the NTGVVP offset area, then corrective management actions must be undertaken to re-achieve the 6/15 weed cover score. Detailed vegetation monitoring (Section 8.2) will be undertaken each year following the missed target, until the target is reached again.

### 8.5.4 Offset Management Plan Review

The OMP will be reviewed by a suitably qualified ecologist, in consultation with the landowner, TfN and Approval Holder following the detailed Year 5 assessment. This will be the responsibility of the Approval Holder to arrange. Where relevant, the review will make recommendations to improve the performance of management actions. The OMP review is to be instigated and funded by the Approval Holder. It is the responsibility of the landowner to implement the relevant management actions described within this OMP, decisions regarding adaptive management and the ultimate performance of the OMP are the responsibility of the Approval Holder.

The Approval Holder will forward the 5-year review to DAWE. Should any material changes to the OMP be proposed as a result of the 5-year review, the Approval Holder will seek DAWE's approval prior to implementation of the changes.

A Year-10 review will also be conducted to determine whether the outcomes of the management plan have met the predicted outcomes of the EPBC offset gain calculator.

All records/evidence of management actions will be maintained by the landowner and be submitted to DAWE upon request.



## 8.5 Monitoring and Reporting Timeline

**Table 14.** Timeline of Monitoring and Reporting requirements throughout the 10 year Offset Management Period

OMP Year	Task	Responsibility	Relevant OMP Section
1	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
1	Detailed NTGVVP Monitoring 17.5 ha site	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
1	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
1	Baseline Rabbit Abundance Survey	Undertaken by a qualified ecologist and funded by the Approval Holder	8.4.1
1	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
1	Annual Report- (Complete template provided)	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
1	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
2	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
2	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
2	Annual Report - See Template	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
3	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
3	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
3	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
3	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2

OMP Year	Task	Responsibility	Relevant OMP Section
3	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
3	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
4	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
4	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
4	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
5	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
5	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
5	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
5	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
5	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
5	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
5	Offset Management Plan Review	A qualified ecologist engaged by the Approval Holder. Review to be completed in consultation with the Landowner and TfN	8.5.3
6	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
6	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.5.2
6	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
7	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1



OMP Year	Task	Responsibility	Relevant OMP Section
7	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
7	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
8	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
8	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
8	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
8	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
8	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
8	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
9	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
9	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
9	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
10	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
10	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
10	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
10	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
10	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1





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OMP Year	Task	Responsibility	Relevant OMP Section
10	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
10	Offset Management Plan Review	A qualified ecologist engaged by the Approval Holder. Review to be completed in consultation with the Landowner and TfN	8.5.3

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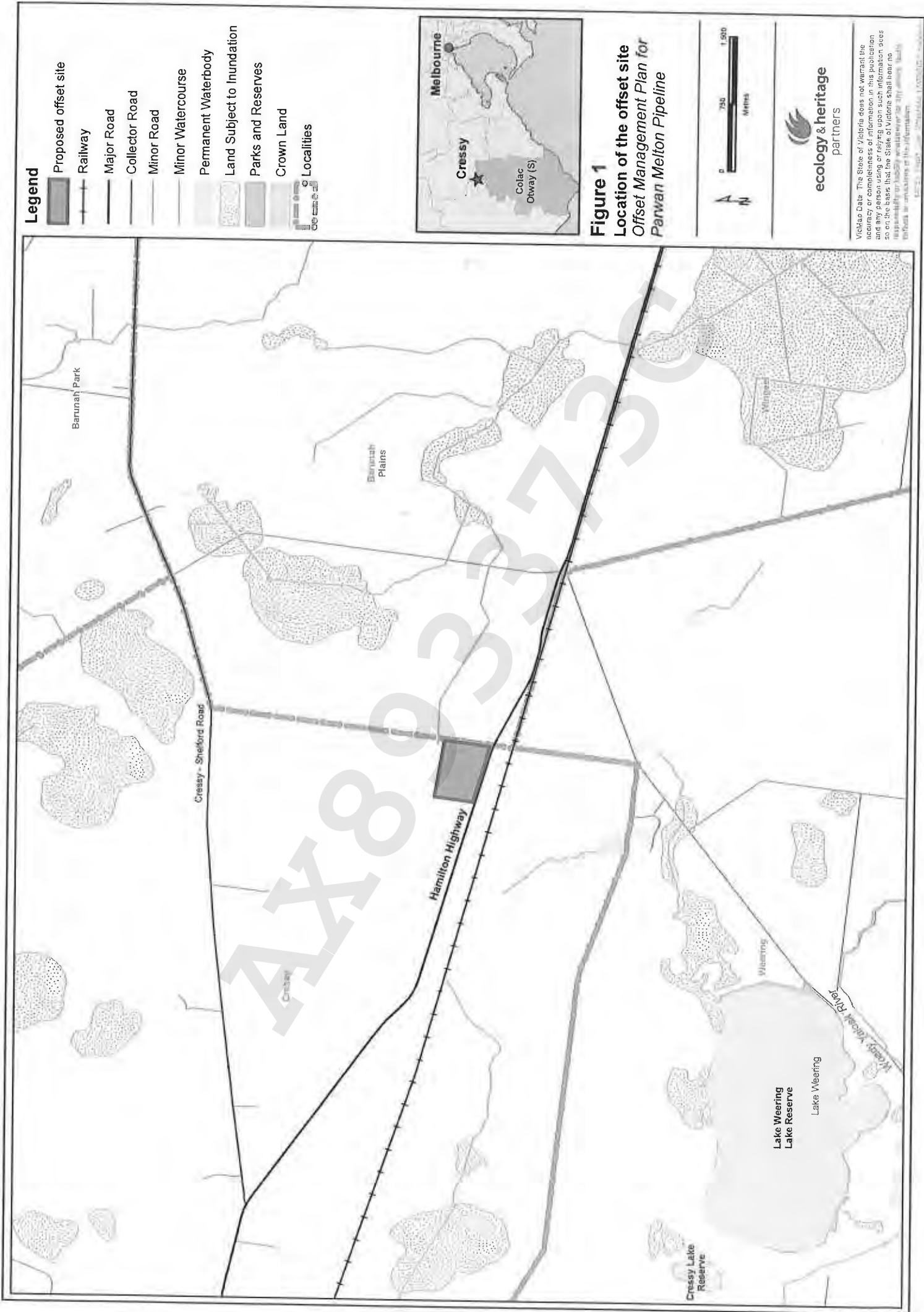
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**Legend**

-  Proposed Golden Sun Moth offset site (30 ha)
-  NTGVVP offset site (33 ha)
-  Property boundaries
-  Existing offset site
-  Water point exclusion zone



**Figure 2**  
**Offset locations within the property**  
**Offset Management Plan for Parwan Melton Pipeline**



Disclaimer: The State of Victoria does not warrant the accuracy or completeness of the information and any person using or relying upon such information does so at their own risk. In Victoria, the State does not accept responsibility or liability whatsoever for any errors, omissions or inaccuracies in the information.



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## Appendix 1. Risk Assessment and Management Definitions

### Risk framework

		Consequence				
		Minor	Moderate	High	Major	Critical
Likelihood	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

## Likelihood and consequence

<b>Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)</b>	
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances
<b>Qualitative measure of consequences (what will be the consequence/result if the issue does occur)</b>	
Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.



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## Appendix 2. EPBC OFFSET CALCULATOR

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### Offsets Assessment Guide

Use this guide to assess the offset against the Environmental Protection and Enforcement (EPA) Act 1992. This guide is for use by the Environmental Protection and Enforcement (EPA) Act 1992. This guide is for use by the Environmental Protection and Enforcement (EPA) Act 1992.

Offset type	100%
Offset value	100%
Offset value	100%
Offset value	100%

Offset type	100%
Offset value	100%
Offset value	100%
Offset value	100%

Impact calculator		Offset calculator	
Provisional nature attributes	Quantum of impact	Provisional nature attributes	Quantum of offset
Area of habitat	1000m <sup>2</sup>	Area of habitat	1000m <sup>2</sup>
Number of habitats	1	Number of habitats	1
Condition of habitat	Good	Condition of habitat	Good
Number of habitats	1	Number of habitats	1
Condition of habitat	Good	Condition of habitat	Good
Number of habitats	1	Number of habitats	1
Condition of habitat	Good	Condition of habitat	Good

Impact calculator		Offset calculator	
Provisional nature attributes	Quantum of impact	Provisional nature attributes	Quantum of offset
Area of habitat	1000m <sup>2</sup>	Area of habitat	1000m <sup>2</sup>
Number of habitats	1	Number of habitats	1
Condition of habitat	Good	Condition of habitat	Good
Number of habitats	1	Number of habitats	1
Condition of habitat	Good	Condition of habitat	Good
Number of habitats	1	Number of habitats	1
Condition of habitat	Good	Condition of habitat	Good

Summary		Cost (\$)	
Provisional nature attributes	Quantum of impact	Direct offset (\$)	Total (\$)
Area of habitat	1000m <sup>2</sup>	1000	1000
Number of habitats	1	1000	1000
Condition of habitat	Good	1000	1000
Area of habitat	1000m <sup>2</sup>	1000	1000
Number of habitats	1	1000	1000
Condition of habitat	Good	1000	1000

### SCHEDULE 3: COMPLIANCE AND PAYMENT CONDITIONS

1. The conditions in this Schedule 3 shall apply until the expiration of the Offset Management Plan.
2. Before the Trust will be obliged to make any payment to the Owner, the Owner must reasonably satisfy the Trust as to its compliance with the Covenant by:
  - a. providing all reports as to the progress of implementing the Offset Management Plan, in accordance with the Covenant;
  - b. responding to any other reasonable requests by the Trust for information relating to the Owner's compliance with the Covenant; and
  - c. allowing the Trust and any person it nominates to enter the Land to carry out site inspections at any reasonable time upon provision of reasonable notice to the Owner.
3. If satisfied that the Owner has implemented the Offset Management Plan for a particular year and otherwise complied with this Covenant, the Trust must make payments in accordance with Schedule 4 to the Owner for the relevant year.
4. If, for any of the reasons described in clause 11.1.2 of the Covenant (acts out of the control of the Owner), native vegetation within the Conservation Tier is damaged or destroyed, or the completion of management actions required by the Offset Management Plan is delayed:
  - a. the Owner must:
    - i. immediately advise the Trust in writing, describing the extent of the affected area; and
    - ii. to the extent that it is reasonably practicable, and to the reasonable satisfaction of the Trust:
      - A. complete the outstanding management actions as soon as possible;
      - B. make best endeavours to assist the regeneration of the affected area; and
      - C. continue to manage the affected area for conservation purposes and consistently with the Covenant Objectives; and
  - b. provided that the Owner has complied with clause 4.a of this Schedule 3, the Trust agrees that it will not withhold any payment for the relevant year.
5. Subject to clause 4 of this Schedule 3, if the Trust believes, acting reasonably, that the Owner has failed to comply with the Covenant, the Trust may withhold any payment to the Owner until the relevant requirement has been complied with to the Trust's reasonable satisfaction.
  - a. Where a payment has been withheld, the Trust must provide the Owner with reasonable particulars describing what must be done before a payment will be made.
  - b. If 30 days have passed since the Trust provided reasonable particulars, and the Owner continues to fail to comply with the Covenant, the Trust or its agents may enter the Land to undertake the necessary conservation work, or undertake other actions off the Land with a view to rectifying the breach.

- c. The Trust may recover the costs incurred pursuant to sub-clause 5.b of this Schedule 3 (which costs may include staff wages and disbursements) by either, at its sole option:
    - i. providing an account of costs to the Owner, which must be paid by the Owner immediately upon receipt; or
    - ii. deducting the costs from the amount(s) payable to the Owner pursuant to Schedule 4 .
  - d. The costs incurred pursuant to sub-clause 5.b of this Schedule 3 shall be capable of being recovered by the Trust in any court or competent jurisdiction as a civil debt recovered summarily.
  - e. If the Owner fails to comply with the Covenant for two years in succession, moneys held by the Trust may be forfeited and the Trust shall be entitled to deal with those moneys for the purposes of funding a substitute offset, through the purchase of Biodiversity Credits or other conservation works.
  - f. The Trust's rights in this clause 5 of this Schedule 3 are granted in addition to any rights of remedy provided in the operative provisions of the Covenant.
6. Any money held by the Trust for the purpose of making payments to the Owner will be deposited in an interest bearing account. The Trust will pay the Owner interest earned on the moneys, less any costs.
7. The parties consent to the Trust issuing a Recipient Created Tax Invoice (as defined in A New Tax System (Goods and Services Tax) Act 1999 (Cth)) in relation to any supply made in connection with the Covenant, where the Trust is willing to do so, but acknowledge that the Trust shall not be obliged to issue a Recipient Created Tax Invoice.

**SCHEDULE 4: PAYMENT SCHEDULE TO THE OWNER**

<b>Date</b>	<b>Payment to Owner by the Trust (Ex GST)</b>
First covenant land management payment on registration of the Covenant	25% of total (\$109,126.69)
At the first anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$43,650.68)
At the second anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$21,825.34)
At the third anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$43,650.68)
At the fourth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$43,650.68)
At the fifth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$21,825.34)
At the sixth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$21,825.34)
At the seventh anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$43,650.68)
At the eighth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$21,825.34)
At the ninth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	5% of total (\$21,825.34)
At the tenth anniversary of the commencement of the OMP or upon registration of the Covenant (whichever occurs latest)	10% of total (\$43,650.69)
<b>Total payment:</b>	<b>\$436,506.79 (Ex GST)</b>

### MORTGAGEE CONSENT

RABOBANK AUSTRALIA LTD as Mortgagee under Instrument of Mortgage No. AR504215A consents to the Owner entering into this Agreement and agrees to be bound by the terms and conditions of this Agreement.

DATED: 20-10-22

Executed for and on behalf of

Rabobank Australia Ltd

Signed by RABOBANK AUSTRALIA LIMITED by its  
attorneys **Alfred Saulon** Senior Manager  
and **BENJAMIN MOMENT** Manager  
who respectively state at the time of executing this instrument  
they have no notice of the revocation of the Power of Attorney  
registered number **Book 277 Page 027 Item 030**  
under the authority of which they executed this instrument.

Witness:-

  
Susan Olsson

Settlements Officer

## **Appendix I: Mt. Gow Covenant Correspondence & Land Title**

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

**From:** [Stephen Campbell](#)  
**To:** [EPBC Monitoring](#)  
**Cc:** [offsets@tfn.org.au](mailto:offsets@tfn.org.au); [Claire Ranyard](#); [Matthew Boyd](#)  
**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]  
**Date:** Friday, 18 August 2023 1:38:00 PM  
**Attachments:** [GPN14251 - VIC LANDATA - Title Search Online - Register Search Statement - Volume 9575 Folio 544.pdf](#)

---

Hi Olivia,

Hope you're well. I was hoping to clarify the compliance reporting timelines under this approval.

As per the emails below, the commencement of the action was 21 November 2022, and compliance records are required under Condition 11 for each 12 month period following this date. As such, the first compliance report is due on the 21<sup>st</sup> of November 2023. I wanted to request a 3 month extension until the February 21<sup>st</sup> 2024 (which will follow on in subsequent years) which will allow for compliance monitoring to be undertaken during Spring each year at each of the offset sites, which is the opportune time for NTGVVP and GSM. If you could please confirm this is OK would be appreciated.

As an update regarding Condition 3, below is the status of the TFN covenants:

- Mt. Gow: Secured (refer attached title search as evidence)
- Cressy: With TFN CEO for signing (will provide title search once finalised)

Additionally, as the landowners at each of the offsets are required to undertake their own monitoring under the OMP, which is in addition to GWWs monitoring as the approval holder, I also wanted to confirm whether the landowners could align their reporting timelines with the above? Currently, I believe landowner reporting timelines will be aligned with signing dates for the Section 173 agreement, which were as follow:

- Mt. Gow: June 2021
- Cressy: 30 November 2022

Caitlin – Please let me know if there are any issues from TFN side of things regarding this.

Hoping to get some consistency for all involved.

Lastly, I also wanted to clarify what the requirements of the Independent Audit (conditions 14-16) under the EPBC approval are? Does this relate to the actual action itself, i.e. construction of the pipeline? If so, could you provide some guidance on what you require audited?

Thanks,

**Stephen Campbell**  
Western Irrigation Network (WIN) Engineering Co-Ordinator

M 0437 098 971  
[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



[gww.com.au](http://gww.com.au)

---

**From:** EPBC Monitoring <epbcmonitoring@dcceew.gov.au>  
**Sent:** Tuesday, 7 March 2023 10:49 AM  
**To:** Stephen Campbell <Stephen.Campbell@gww.com.au>  
**Cc:** Warren Price <Warren.Price@gww.com.au>; cranyard@ehpartners.com.au; melody.valentine@beca.com; Fran.Soler@beca.com; offsets@tfn.org.au; EPBC Monitoring <epbcmonitoring@dcceew.gov.au>  
**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]

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Dear Stephen,

Thank you for your email, and the department acknowledges receipt of this information.

For further information please do not hesitate to contact the EPBC Monitoring Mailbox.

Kind regards,

**Olivia Moore**

**Compliance Officer**

**Environmental Audit Section | Environment Compliance Branch | Chief Counsel Division  
Department of Climate Change, Energy, the Environment and Water**

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parks ACT 2600  
(GPO Box 3090) ACT 2601 Australia

E [olivia.moore@dcceew.gov.au](mailto:olivia.moore@dcceew.gov.au)

**DCCEEW**.gov.au ABN 63 573 932 849

---

**From:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>  
**Sent:** Thursday, 12 January 2023 3:47 PM  
**To:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>  
**Cc:** Warren Price <[Warren.Price@gww.com.au](mailto:Warren.Price@gww.com.au)>; [cranyard@ehpartners.com.au](mailto:cranyard@ehpartners.com.au); [melody.valentine@beca.com](mailto:melody.valentine@beca.com); [Fran.Soler@beca.com](mailto:Fran.Soler@beca.com); [offsets@tfn.org.au](mailto:offsets@tfn.org.au); Moore, Olivia <[Olivia.Moore@dcceew.gov.au](mailto:Olivia.Moore@dcceew.gov.au)>  
**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]



Register Search Statement - Volume 9575 Folio 544

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The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 09575 FOLIO 544

Security no : 124107059079P  
Produced 22/06/2023 11:01 AM

LAND DESCRIPTION

Crown Allotment 64A Parish of Wingeel.  
PARENT TITLE Volume 08560 Folio 178  
Created by instrument L008012T 27/04/1984

REGISTERED PROPRIETOR

Estate Fee Simple  
Sole Proprietor  
CRICHTON PROPERTIES PTY LTD of 194 HIGH STREET BELMONT VIC 3216  
AN013261P 11/08/2016

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AV729324E 10/06/2022  
NATIONAL AUSTRALIA BANK LTD

COVENANT as to part Section 3A Victorian Conservation Trust Act 1972  
AW922733A 10/06/2023

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

AGREEMENT Section 173 Planning and Environment Act 1987  
AU604430M 22/07/2021

AGREEMENT Section 173 Planning and Environment Act 1987  
AW746072A 19/04/2023

DIAGRAM LOCATION

SEE TP263747K FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
AW746072A (E)	AGREEMENT	Registered	20/04/2023
AW922733A	COVENANT	Registered	20/06/2023
AW876688F (E)	COVID 19 BCP	Withdrawn	10/06/2023

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

ADMINISTRATIVE NOTICES

-----  
NIL

eCT Control 16089P NATIONAL AUSTRALIA BANK LTD  
Effective from 10/06/2022

DOCUMENT END

**The information supplied has been obtained by Dye & Durham Property Pty Ltd who is licensed by the State of Victoria to provide this information via LANDATA® System. Delivered at 22/06/2023, for Order Number 80011696. Your reference: GPN6504.**

## **Appendix J: Correspondence Containing Covenant Status & Shapefiles**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

**From:** [Stephen Campbell](mailto:Stephen.Campbell@awe.gov.au)  
**To:** [PostApproval@awe.gov.au](mailto:PostApproval@awe.gov.au); [Tony.Dowd@awe.gov.au](mailto:Tony.Dowd@awe.gov.au); [Robin.Nielsen@awe.gov.au](mailto:Robin.Nielsen@awe.gov.au); [compliance@environment.gov.au](mailto:compliance@environment.gov.au)  
**Cc:** [Warren Price](mailto:Warren.Price@awe.gov.au); [Claire Ranyard](mailto:Claire.Ranyard@awe.gov.au); [Melody Valentine](mailto:Melody.Valentine@awe.gov.au); [Fran Soler](mailto:Fran.Soler@awe.gov.au); [Offsets Program](mailto:Offsets.Program@awe.gov.au)  
**Subject:** EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action  
**Date:** Tuesday, 13 December 2022 1:51:00 PM  
**Attachments:** [3\\_2018-8260-Final\\_approval-ATT\\_C-Decision\\_notice-SIGNED \(1\) \(2\).pdf](#)  
[signed\\_s173\\_agreement - 6060 Hamilton Highway CRESSY.pdf](#)  
[signed\\_s173\\_agreement - Mt\\_Gow\(13382388.1\).pdf](#)  
[Cressy offset sites 13-12-2022.zip](#)  
[Mt\\_Gow\\_offset\\_site 13-12-2022.zip](#)

---

Good Afternoon,

Please see attached EPBC Approval 2018-8260 and below summary of the completion of the following conditions under the approval:

- Condition 2: Finalisation of Section 173 Agreements
  - Please see attached signed Section 173 agreements for both Mt. Gow and Cressy which have been registered on title.
- Condition 3 & 4: Securing of Offset Sites
  - This process has begun with Trust for Nature and we will confirm once both sites have been secured.
  - Please see attached shapefiles as required under Condition 4
- Condition 5 & 7: Commencement of the Action & Implementation of the OMP
  - Please take this email as notification of the commencement of the action and implementation of the OMP

Any question, please let me know.

Kind Regards

**Stephen Campbell**

Western Irrigation Network (WIN) Engineering Co-Ordinator

M 0437 098 971

[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



[gww.com.au](http://gww.com.au)

**From:** [Offsets Program](#)  
**To:** [Stephen Campbell](#)  
**Cc:** [Offsets Program](#)  
**Subject:** RE: Cressy Covenant Registration  
**Date:** Tuesday, 11 June 2024 5:17:07 PM  
**Attachments:** [image184106.png](#)  
[image432890.png](#)  
[image946994.png](#)  
[image918117.png](#)  
[image461735.png](#)  
[image304620.png](#)  
[image005440.png](#)  
[image028577.png](#)  
[VIC\\_Instrument\\_AX893373C.pdf.pdf](#)

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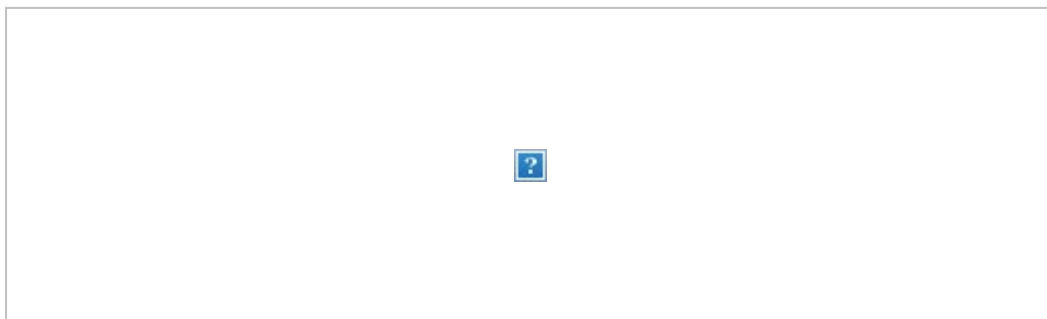
Hi Stephen,

Please find the registered covenant attached, Jamie has been sent this as well

Apologies for the delayed notice, I believe there was some additional time after the noted registration date for the instrument to be imaged on title

Kind regards,

Caitlin



***Trust for Nature needs your help to protect priority areas of habitat in Victoria. Donate today.***

*We acknowledge the First Peoples, the Traditional Custodians of the sky, land and waters since time immemorial.*

*We commit to listening and learning from their deep knowledge and continuous cultural and spiritual connections.*

*Together, we can protect, care, and heal Country, so nature can thrive. We walk together. Forever & Always.*

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**From:** Stephen Campbell <Stephen.Campbell@gww.com.au>

**Sent:** Tuesday, June 11, 2024 4:21 PM

**To:** Offsets Program <offsets@tfn.org.au>

**Cc:** Caitlin Tolsma <caitlint@tfn.org.au>

**Subject:** Cressy Covenant Registration

Hi Caitlin,

Hope you're well.

Has the Cressy TFN covenant been registered on title?

Cheers,

**Stephen Campbell**

Western Irrigation Network (WIN) Engineering Co-Ordinator

**M** 0437 098 971

[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



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# **Appendix K: Correspondence Containing Implementation of OMP**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



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---

**From:** EPBC Monitoring <epbcmonitoring@dcceew.gov.au>  
**Sent:** Tuesday, 7 March 2023 10:49 AM  
**To:** Stephen Campbell <Stephen.Campbell@gww.com.au>  
**Cc:** Warren Price <Warren.Price@gww.com.au>; cranyard@ehpartners.com.au; melody.valentine@beca.com; Fran.Soler@beca.com; offsets@tfn.org.au; EPBC Monitoring <epbcmonitoring@dcceew.gov.au>  
**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]

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Dear Stephen,

Thank you for your email, and the department acknowledges receipt of this information.

For further information please do not hesitate to contact the EPBC Monitoring Mailbox.

Kind regards,

**Olivia Moore**

**Compliance Officer**

**Environmental Audit Section | Environment Compliance Branch | Chief Counsel Division  
Department of Climate Change, Energy, the Environment and Water**

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parks ACT 2600  
(GPO Box 3090) ACT 2601 Australia

E [olivia.moore@dcceew.gov.au](mailto:olivia.moore@dcceew.gov.au)

**DCCEEW**.gov.au ABN 63 573 932 849

---

**From:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>  
**Sent:** Thursday, 12 January 2023 3:47 PM  
**To:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>  
**Cc:** Warren Price <[Warren.Price@gww.com.au](mailto:Warren.Price@gww.com.au)>; [cranyard@ehpartners.com.au](mailto:cranyard@ehpartners.com.au); [melody.valentine@beca.com](mailto:melody.valentine@beca.com); [Fran.Soler@beca.com](mailto:Fran.Soler@beca.com); [offsets@tfn.org.au](mailto:offsets@tfn.org.au); Moore, Olivia <[Olivia.Moore@dcceew.gov.au](mailto:Olivia.Moore@dcceew.gov.au)>  
**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]



Hello Olivia,

Prior to the commencement of the action, the following steps were undertaken:

- 2 x weed passes.
  - One in August and one in the second week of November.
  - The target weed species were Fog grass, Phalaris, Spear Thistle, Serrated Tussock.
- Following this, a Spring inspection was undertaken and it was evident that the weed control had worked.
- During the inspection it was identified that because of the late season, Quaking Grass and Phalaris were growing. It was then decided to undertake a late graze as Kangaroo and Wallaby grass was not at the seeding stage. 615 Sheep grazed the offset as part of the larger paddock as outlined below and have done an excellent job. With great inter tussock spacing and good areas for GSM habitat.

The following steps are planned to be undertaken in the near future:

- Fencing the boundaries of the offset - which has been booked in and the materials ordered and then plumbing will occur. The OMP has an 18 month deadlines to allow for material availability, so is well ahead of time.
- Three passes of weed control will be undertaken as well as pulse grazing as outlined in the OMP, depending on the season. We anticipate the weed control passes to occur in April, September and November (approximately).
- Monitoring will be undertaken, including:
  - 4 inspections by the landowner assessing grazing results and plans, weed control results and plans, fence checks and shooting as required.
  - Coordinating independent 3rd party monitoring as required under the OMP.
  - GSM and Vegetation In Spring / Summer 2023

Below is the grazing history for the last 12 months:

- Jan 4 2022 to Feb 1 2022
- June 2 2022 to June 14 2022
- July 8 2022 to Sep 6 2022
- Sep 21 2022 to Oct 17 2022
- Nov 1 2022 to Dec 6 2022

Please let me know if this doesn't satisfy condition 5 of the approval or if you would like any further information.

Cheers,

**Stephen Campbell**

Western Irrigation Network (WIN) Engineering Co-Ordinator

M 0437 098 971

[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



[gww.com.au](http://gww.com.au)

---

**From:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>

**Sent:** Friday, 23 December 2022 11:58 AM

**To:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>

**Cc:** Warren Price <[Warren.Price@gww.com.au](mailto:Warren.Price@gww.com.au)>; [cranyard@ehpartners.com.au](mailto:cranyard@ehpartners.com.au); [melody.valentine@beca.com](mailto:melody.valentine@beca.com); [Fran.Soler@beca.com](mailto:Fran.Soler@beca.com); [offsets@tfn.org.au](mailto:offsets@tfn.org.au); EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>; Moore, Olivia <[Olivia.Moore@dcceew.gov.au](mailto:Olivia.Moore@dcceew.gov.au)>

**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]

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Dear Mr. Campbell,

Thank you for clarifying the date of commencement of the action and please find attached a letter regarding the notification.

Condition 7 of the approval requires the approval holder to notify the department in writing of commencement of the action within 10 business days after the date of commencement of the action.

Based on the notifications that you have provided, and with regard to the requirement of Condition 7, the department has formed the view that a breach of Condition 7 of the EPBC 2018/8260 approval has been substantiated. This is based on your failure to notify the department of commencement of the action within 10 business days of the date that the action commenced. However, given the nature of the contravention and the circumstances surrounding the breach of the condition, the department has decided to take no further compliance action regarding this matter.

Please note that section 142 of the *Environment Protection and Biodiversity Conservation Act 1999* requires an approval holder to comply with conditions attached to an approval. Penalties may apply to approval holders who contravene conditions.

**Offset Management Plan**

Please provide clarification on what actions have been undertaken to implement the Offset Management Plan prior to commencement of the action in accordance with condition 5 of the approval.

Please provide a response to the department by **COB 20 January 2023**.

If you have any questions regarding this matter, please contact the department by return email.

Kind regards,

**Olivia Moore**

**Compliance Officer**

**Environmental Audit Section | Environment Compliance Branch | Chief Counsel Division**

**Department of Climate Change, Energy, the Environment and Water**

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parks ACT 2600

(GPO Box 3090) ACT 2601 Australia

**E** [olivia.moore@dcceew.gov.au](mailto:olivia.moore@dcceew.gov.au) | **P** 0476 347 733

**DCCEEW**.gov.au ABN 63 573 932 849

---

**From:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>

**Sent:** Thursday, 22 December 2022 12:59 PM

**To:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>

**Cc:** Warren Price <[Warren.Price@gww.com.au](mailto:Warren.Price@gww.com.au)>; [cranyard@ehpartners.com.au](mailto:cranyard@ehpartners.com.au);  
[melody.valentine@beca.com](mailto:melody.valentine@beca.com); [Fran.Soler@beca.com](mailto:Fran.Soler@beca.com); [offsets@tfn.org.au](mailto:offsets@tfn.org.au)

**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action  
[SEC=OFFICIAL]

Hi Olivia,

Confirming receipt of the below email.

The date of commencement of the action was Monday 21 November. The trigger of the action was the clearing of existing topsoil within the construction footprint by an excavator.

Cheers,

**Stephen Campbell**

Western Irrigation Network (WIN) Engineering Co-Ordinator

**M** 0437 098 971

[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



**[gww.com.au](http://gww.com.au)**

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## **Appendix L: Mt. Gow Year 2 Monitoring Report**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

## **Appendix M: Cressy Year 2 Monitoring Report**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

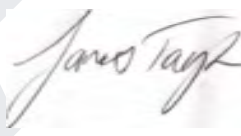
**Warrambeen**

1372 Rokewood Shelford Rd

Shelford 3329

ph. (03) 52813250

e. [offsets@warrambeen.com](mailto:offsets@warrambeen.com)

Landowner of offset site	James Taylor
Location and address of offset site	Chathams Farm 6060 Hamilton Highway, Cressy
Offset Proponent	<b>Western Water EPBC 2020/8260</b>
TfN Reference	INT13756
Responsible Authority	DCCEEW
Report number / Year Start Month	Year 2 / November 2023 - November 2024
Type of Offset Size of Offset	Vegetation and Golden Sun Moth 33 HA
Signature	
Date	September 2024

**Information to be included:**

- A copy of the Management Action Table from the OMP with information on which actions have been completed for the year/s of this reporting period;
- A description of the specific monitoring results from surveys undertaken for vegetation/flora species;
- A description of the specific monitoring results from surveys undertaken for significant fauna species, such as the Golden Sun Moth
- 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 technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing, etc.)
- Include any corrective actions and contingency measures where monitoring indicates that there has been a degradation in the native vegetation and Golden Sun Moth population and habitat; and,
- Provide any photographs showing evidence of works.

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### General Offset Overview

We are generally very happy with the state of the Western Water Offset despite an unseasonably dry Autumn and Winter. The offset continues to display an excellent mosaic of native plants with low levels of introduced species overall and a medium level of phalaris infestation in some small areas. We continue to observe large amounts of Blue Devil, Lemon Beauty Heads and high amounts of native grasses such as Spear, Wallaby and Kangaroo grass.

It is early spring at time of writing and in addition to the above we are seeing an abundance of herbs in general emerging including Blue Devil, Lobelia, Convolvulus, Common Woodruff, Yellow Buttons, small amounts of Goodenia and Dichondra among others. We are yet to identify some herbs and wildflowers.

Strategic grazing used in conjunction with spot spraying has done an excellent job at reducing and maintaining biomass levels and controlling annual weeds. Due to high biomass levels and learnings from previous years, we grazed the area hard late in winter and early spring 2024 and continue to monitor grazing closely to ensure overgrazing does not occur. We will closely monitor the growth rate as the season progresses to determine late Spring and early Summer grazing needs, being mindful of excluding stock between October 1 and January 31 unless summer grazing is deemed necessary as per the Offset Management Plan (OMP) and Ecology & Heritage Partners (EHP) recommendations.

Note that all photos included in this report constitute evidence of works completed. Note also that the OMP states that the independent monitor was to create photo points and install star pickets to mark these, however these were not installed, just photo points taken digitally. To ensure compliance in our reporting we have taken images from these reference points using the google earth coordinates provided by the ecologist. We have also installed temporary markers that will be replaced by star pickets.



*General views of the Western Water offset taken in Summer (February) 2024 and Winter (August) 2024.*

*Also see photo point images in Appendix 4*



*Many Herbs and Wildflowers have been observed emerging and flowering in early spring (late September and early October 2024). This is an example of some that have been observed.*



### Independent Monitoring Results

As per the OMP no independent monitoring of vegetation or the Golden Sun Moth (GSM) population within the offset has been required this year (Year 2). Detailed vegetation monitoring, Golden Sun Moth population monitoring and Detailed Assessment Reporting (which includes a review of the effectiveness of management actions against performance indicators of the OMP) will be undertaken by qualified ecologists in year 3, and again in years 5, 8 and 10.

Year 2 - 2024 No independent reports required

Year 3 - 2024/2025 Vegetation Quality Assessment & GSM Survey required

A baseline rabbit abundance survey was conducted in November 2023 and found no rabbits and no sign of rabbits on site. We continue to monitor for signs of rabbits regularly when on the offset during normal farming activities and when doing quarterly reviews of the offset (see Appendix 2). One European Hare was observed approximately 500m from the offset site during a quarterly inspection and one was again observed in the south east corner in early October 2024. We have recently engaged another regular pest animal controller and he has been notified of this recent sighting.

### Successful Management Tools:

**Biomass Control:** As noted above native grasses, including Wallaby Grass, Spear Grass, Common Tussock Grass and Kangaroo grass, continue to thrive this year. We have also continued to note increasing amounts of Lemon Beauty Heads and Blue Devil. Any weeds on the site currently stand out due to the dry conditions since summer and strategic grazing, making weed control efforts easier. We continue to be happy with the results achieved from grazing in relation to the control of flatweed, a difficult weed to get on top of. Like last year, timed grazing to remove the flowers in Winter and Spring has been very effective. All of these efforts help to ensure floristic diversity, inter-tussock spacing for native seed germination and bare ground availability for the moth breeding season as per the OMP. *Images of observations on site can be seen in Appendix 2 and 3*

### Grazing Schedule:

Offset area	Sheep in	Amount	Sheep Out
Western Water	22/2/24	749	29/2/24
	22/5/24	749	14/6/24
Chathams East	26/8/24	749	2/9/24
	17/9/24	749	23/9/24

### Pest Control

Staff visiting the site recently noted scat and signs of predation but have not been able to identify if it's a fox or feral cat. We have passed this information on to our pest animal controllers and continue to monitor.



Date	Activity	Observation	Action Required/Completed
29 December 2023	Shooting	1 Fox on adjacent offset	None
13 March 2024	Shooting	1 rabbit potentially seen on southern boundary	Observe
25 June 2024	Shooting	Nothing noted	None
12 August 2024	Shooting	1 Rabbit shot on stone wall	None

## Weed Control



*Late spring/early summer weed spraying - Dec 2023 and successful treatment of an area of phalaris*

**Weed Log:** We have targeted the following weeds in this reporting period:

- Phalaris
- Spear Thistle
- Flatweed
- Bearded Oat
- Fog Grass
- Chilean & Texas Needle Grass
- Bathurst Burr (in exclusion zone)

We have also noted the presence of:

- Onion Grass
- Rye grass
- Brome
- Shaking Grass along highway rock wall

Our Weed control works in the last 12 months have consisted of 3 x spray passes targeting key weeds listed above as identified in quarterly reviews of the offset (*these reviews can be seen in Appendix 2*). We also identified patches of hard to control flatweed which we try to manage with grazing. We continue to treat Texas Needle Grass and Bearded Oats where identified. Boundary areas are a particular focus as these were identified as areas of concern by EHP. We have had great success so far, particularly in the south-east corner as seen in the image below.

An area of Chilean Needle Grass was identified in an adjoining paddock in previous years and we have been successful in reducing this from around 100 plants to 2 plants as of last year. In late November 2023 a contractor was employed to spray phalaris and to search for Chilean Needle Grass and Texas Needle Grass with none being found. This remains an area of high priority for us and is regularly monitored. The contractor visited again on 16/9/2024 and focused on monitoring needle grasses and spraying phalaris regrowth in the south-east corner. We note there are very few Spear Thistles on the offset and surrounding areas due to excellent management in previous years and will spray or chip out a few observed in a recent visit to the site.



*Successful treatment of phalaris in the south-east corner; a problem area identified by EHP*

**Weed Control Dates**

Date	People	Weeds Targeted	Chemical Used
Completed by mid Dec 2023	12.5hrs Phil Spark and team	Phalaris, Texas Needle Grass, Bearded Oat, Spear Thistle	Glyphosate 2 4D
April 2024	James Taylor	Chipping Thistles	Nil
May 1 to August 4 2024 Winter spot spraying	Martin Azzopardi	Phalaris Horehound Bathurst Burr	Glyphosate 2 4D
16 September 2024	Phil Hunter (contractor)	Chilean & Texas Needle Grass monitoring. Spraying Phalaris in South East corner	Glyphosate



*Images showing effective weed control efforts*

**Corrective Actions and Contingency Measures**

There are no major issues or contingency measures identified at this point. The offset is in a pleasing condition despite very dry autumn and winter seasons. We will continue our annual weed control program and quarterly monitoring and have nothing major to work on at the moment that is not in the OMP.



As previously mentioned we continue to monitor the site for Chilean needle grass and ensure a suitably qualified person walks the site annually after it was discovered on a neighbouring offset. Identifying this type of weed is beyond our capacity as a landowner as it can look exactly like native Spear Grass.

### Fencing Work

There is nothing to report in regards to fencing as new fencing was completed in winter 2023 and remains in excellent stock proof condition. Fencing is checked whenever farm staff are on the property and during our quarterly offset reviews. The trough is in the exclusion zone. A low impact, all weather access track has been installed as per below image.



## Appendix 1 - Management Actions Table

Table 11. Management Actions Table

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Fencing</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Establish fence around the boundary of the offset site in accordance with advice from a qualified ecologist and land surveyor Refer Section 5.5.3	Within 18 months on commencement of OMP	Facilitate management and monitoring of the offset site. Delineate location of temporary exclusion fence.
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Maintain fencing in good condition to appropriately exclude unintended grazing by livestock over the 10 year management period. Refer Section 5.5.3	Ongoing	Maintain fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing (excluding the southern boundary along the stone wall where a simple stock-proof fence will be used)

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Woody Weeds</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control new and emerging woody weeds Refer Section 5.5.4	Ongoing	Maintain woody weeds (<1% cover)
<b>Herbaceous Weeds</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control herbaceous weeds. Refer to Table 7 for list of herbaceous weeds, their control method and timing of actions Refer Section 5.5.4	Refer to Table 8	Maintain high threat weeds to levels outlined with section 5.5.4. Minimise off-target damage (avoid all native plants)
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control all new & emerging herbaceous weeds Refer Section 5.5.4	Ongoing	<2% cover of all new and emerging herbaceous weeds at the end of Year 10.
<b>Pest Animals</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control rabbits and foxes. Refer to Table 5 for a list of control methods and timing of actions Refer Section 5.5.5	Refer to Table 9	No surface disturbance within the offset site; No active rabbit warrens to be present; No active fox dens to be present; No rubbish/artificial harbour present; Minimal artificial piles of logs and rocks
1-10	30 ha of GSM habitat;	Monitor and control rabbits and foxes Refer Section 5.5.5	Ongoing	Reduction in the abundance of pest animals, and no detectable impacts to the native grassland

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Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
	33 ha of NTGVVP			
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Monitor and control all new and emerging pest animals Refer Section 5.5.5	Ongoing	Control numbers of any new & emerging pest animals
<b>Biomass Management</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Pulse grazing in dry years and light grazing in wet years. Refer Section 5.5.6	The maximum length of continuous grazing is four weeks with at least two weeks rest between cycles. Stock generally excluded during October - January Stock removed immediately following any high rainfall events.	Stock must be removed should total vegetation cover fall to or below 70%. Sufficient bare ground (approximately 20%) maintained in order to maintain space for recruitment of herbs and grasses. Maintain or improve species richness and improve species diversity. No loss of native plant diversity as a result of grazing regimes. Reduction in weed cover. All grazing events to be documented.
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Monitor organic litter and grass density and enact ecological burn or other biomass reduction plan if appropriate Refer Section 5.5.6	Outside of the GSM active season and SLL breeding season. Do not burn an area more than once every 5 years	Sufficient bare ground (approximately 20%) maintained in order to maintain space for recruitment of herbs and grasses. Maintain or improve species richness and improve species diversity. Flush out weed seed stored in seed bank. No loss of native plant diversity as a result of burning regimes. Reduction in weed cover. All burning events to be documented.

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Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Annual reporting</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Prepare and submit an annual report and photo monitoring to TFN and Approval Holder. Refer Section 8.5.	Submit at least 2 months prior to on-title covenant anniversary date, depending on the commencement date of the offset.	Report provides enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the commitments for the offset site. Report will also include photos that are reviewed by a qualified ecologist. Allow for ongoing assessment of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports. Obligations of the landowner have been met and the obligations form is signed, dated and submitted with the annual report.
5	30 ha of GSM habitat; 33 ha of NTGVVP	Review effectiveness of OMP. Refer Section 8.5.	End of Year 5.	If this OMP is not meeting its objectives, a review will be undertaken, and this OMP will be updated as required and implemented for the remaining 5 years of management, the Approval Holder has the responsibility of instigating this.

## Appendix 2 - Quarterly Landowner Reviews Undertaken

(note Spring Review 2024 is yet to be done at time of reporting)

### Summer 2023/2024 Western Water Offset GSM & VEG EPBC 2018/8260

James Taylor

Report #2023-YEAR 1-Q4-Western Water

**Location:** Chattams Farm 6060 Hamilton Highway, Cressy "Chatham's Block"

**Type of Offset:** GSM & NTGVVP **Date of Inspection:** 6 February 2024 **Previous Inspection:** 29/9/2023

**Name:** (Landowner / Team Member): Jamie and Phil

#### Review

<u>Observations</u>	<u>Information</u>
Fencing	Stock Proof
Weed Coverage	Low with medium Phalaris
Biomass	80 %
Pest Sightings	1 Rabbit
Overall State of Offset	Positive
Grazing	Yes

#### Weed Coverage

Weed coverage observations are low with medium phalaris threat

- Bathurst Burr in exclusion zone
- Breezer coming through, will require grazing within next 3 weeks to prevent seed set.
- Shaking grass along hwy rock wall

#### Grazing

Offset area	Sheep in	No.	Sheep Out
East	22/01/24	750 Red Merino Tags	29/01/24
West	21/12/23	750 Red Merino Tags	22/01/24

#### Biomass Observations

- Blue devil
- Excellent mosaic of native grasses such as wallaby and kangaroo grass, patches of Themeda
- Milky beauty heads, lemon beauty, blue devil
- Abundance of herbs

#### Successes & Challenges

- Grazing effectiveness
- Success in Phalaris spring weed control measured
- Challenge in some small patches missed during spring spot spray

#### Management Actions

##### Weed Control:

- Bathurst Burr in Exclusion Zone needs future weed management
- Missed phalaris patch observed in spring review, marked for future management
- Reseed south east corner



**Vegetation Monitoring Management Actions EHP 2023 Report**

- Continue Pulse Grazing: Implement pulse grazing during late summer, early autumn, and dry winters to maintain overall biomass cover at 80% across the entire offset site.
- Consider Autumn Burns: Explore the possibility of conducting an autumn burn to reduce grassy weed cover and weed seed presence. Ensure native grasses have dropped their seeds and limit burns to once every 5 years.
- Strategic Grazing in Spring: Use strategic grazing in early spring to reduce the spread of annual weeds, as they are most prominent during this time.
- Active Weed Control: Implement additional weed control measures to maintain or reduce high-threat weed species cover below 1%. Spot spraying of specific weed species along eastern and southern boundaries of the study area is recommended, with continued control of newly emerging high-threat weeds
- Vegetation monitoring report suggests options to conduct a planned burn in the appropriate seasons to ensure % of weed cover and biomass meets the objectives, followed by target weed control, should be investigated.

Pest Control

Utilise effective measures for pest control, shooting, baiting, trapping, along western water rock wall, risk management has been assessed for the right pest control methods.

Photo Evidence



Bathurst Burr Exclusion Zone



Native Grasses



Kangaroo Grass covering a large percent of the offset







Spring phalaris kill site



Missed phalaris patch



Successful phalaris kill site



Positive cover of wallaby & kangaroo grasses



Shaking grass along hwy rock wall

## Autumn Review of Western Water Offset VEG & GSM EPBC 2018/8260

James Taylor

Report #2024- Y2-Q2-Western Water

**Location:** Chattams Farm 6060 Hamilton Highway, Cressy

**Type of Offset:** VEG & GSM 33ha

**Date of Inspection:** 26/04/24

**Previous Inspection:** 06/02/24

**Name:** (Landowner / Team Member): Jamie and Phil

### Review

<u>Observations</u>	<u>Information</u>
Fencing	Stock Proof
Weed Coverage	Light
Biomass	65% biomass 35% bare ground average
Pest Sightings	nil
Overall State of Offset	Excellent
Grazing	Yes

#### Weed Coverage

- Grazing has done a good job and very few weeds are present. Any remaining weeds stand out post grazing.
- Area needs to be gridded to ensure phalaris and thistles are adequately treated.
- Some thistle chipped out by hand.
- Small areas of phalaris to be sprayed.

#### Biomass Observations

Excellent inter-tussock spaces and good percentage of bare ground, large mixture of different varieties of natives on display.

#### Overall State of Offset

Excellent with a good mosaic of native plants.

#### Notes

Low impact all weather access track installed

#### Successes & Challenges

Grazing has been excellent in this area. No Major challenges identified

#### Management Actions

Weed Control: Gridded spraying of phalaris and thistle

Fencing: Nil

Pest control: Normal routine inspections

Other: Trees to be planted along old fenceline to prevent weed spread.

**Photo Evidence**



Excellent mosaic of natives



Chipping of thistles occurred





Small areas of phalaris to be sprayed



Area to be planted with trees to prevent weed spread from neighbouring property



Low impact access track installed

## Winter Review of Western Water Offset VEG & GSM EPBC 2018/8260

James Taylor

Report #2024- Y2-Q3-Western Water

**Location:** Chattams Farm 6060 Hamilton Highway, Cressy

**Type of Offset:** VEG & GSM 33ha

**Date of Inspection:** 26/04/24

**Previous Inspection:** 06/02/24

**Name:** (Landowner / Team Member): Jamie and Phil

<u>Observations</u>	<u>Information</u>
Fencing	Stock Proof
Weed Coverage	Light
Biomass	60% biomass 40% bare ground average
Pest Sightings	nil
Overall State of Offset	Satisfactory
Grazing	Yes



### Weed Coverage

- Grazing has done a good job and very few weeds are present. Any remaining weeds stand out post grazing.
- Phalaris is regrowing in some areas and needs spraying, they stand out so will be easy to see if treated soon
- Signs that previous spraying has been successful
- Some juvenile flatweed observed
- Absence of thistles noticed

### Biomass Observations

As usual, large amounts of kangaroo grass were observed. Juvenile herbs were observed emerging but hard to identify at that young age.

### Overall State of Offset

We are really happy with how the offset is looking considering the *very* dry seasonal conditions

### Notes

- Low impact access track and installation of water pipelines/troughs completed
- Photo point posts need to be put in and marked 1-8 clockwise as per map in file. Shapefile with coordinates has now been received from EHP.

**Successes**

Grazing has been very effective in this area and we need to monitor this going forward to ensure overgrazing does not occur.

**Challenges:** none noted other than very dry conditions

**Grazing:**

Area	Date In	Amount	Date Out
Western Water	22/5/24	749	14/6/24

**Management Actions**

Weed Control: Phalaris winter spray and spring follow up

Fencing: Nil

Pest control: Nil

Other: Trees to be planted to prevent weed spread - this action carries over as it is too dry to consider planting trees.

**Photo Evidence**



Phalaris regrowing in some areas needing treatment



Evidence of past success with spraying phalaris but also note some young plants regrowing





Success in previous phalaris control



Phalaris areas needing treatment stand out currently after grazing



Biomass 60-70%



As usual, large numbers of Themeda



Young herbs (unidentified) emerging

DRAFT



Appendix 3 - Maps & Photo Points



**Photo Point 1** (Note: all the following images from photo points were taken 7/10/20224)

*Note: no North facing Image as this photo point is on the northern boundary east side of the offset*



*Incorrectly labelled as North however this is a WEST facing image.*



**Photo Point 2**





**Photo Point 3**



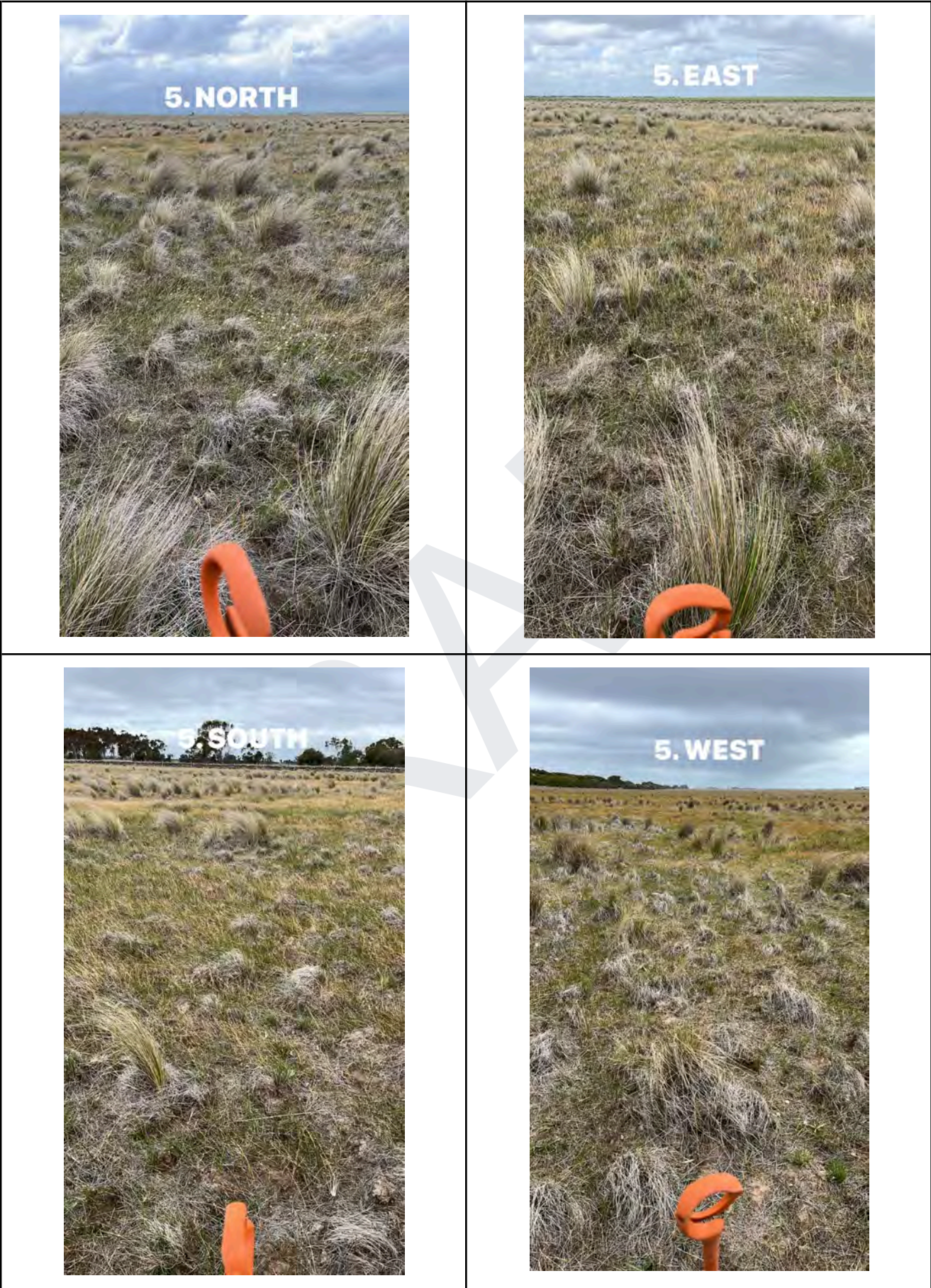


**Photo Point 4**



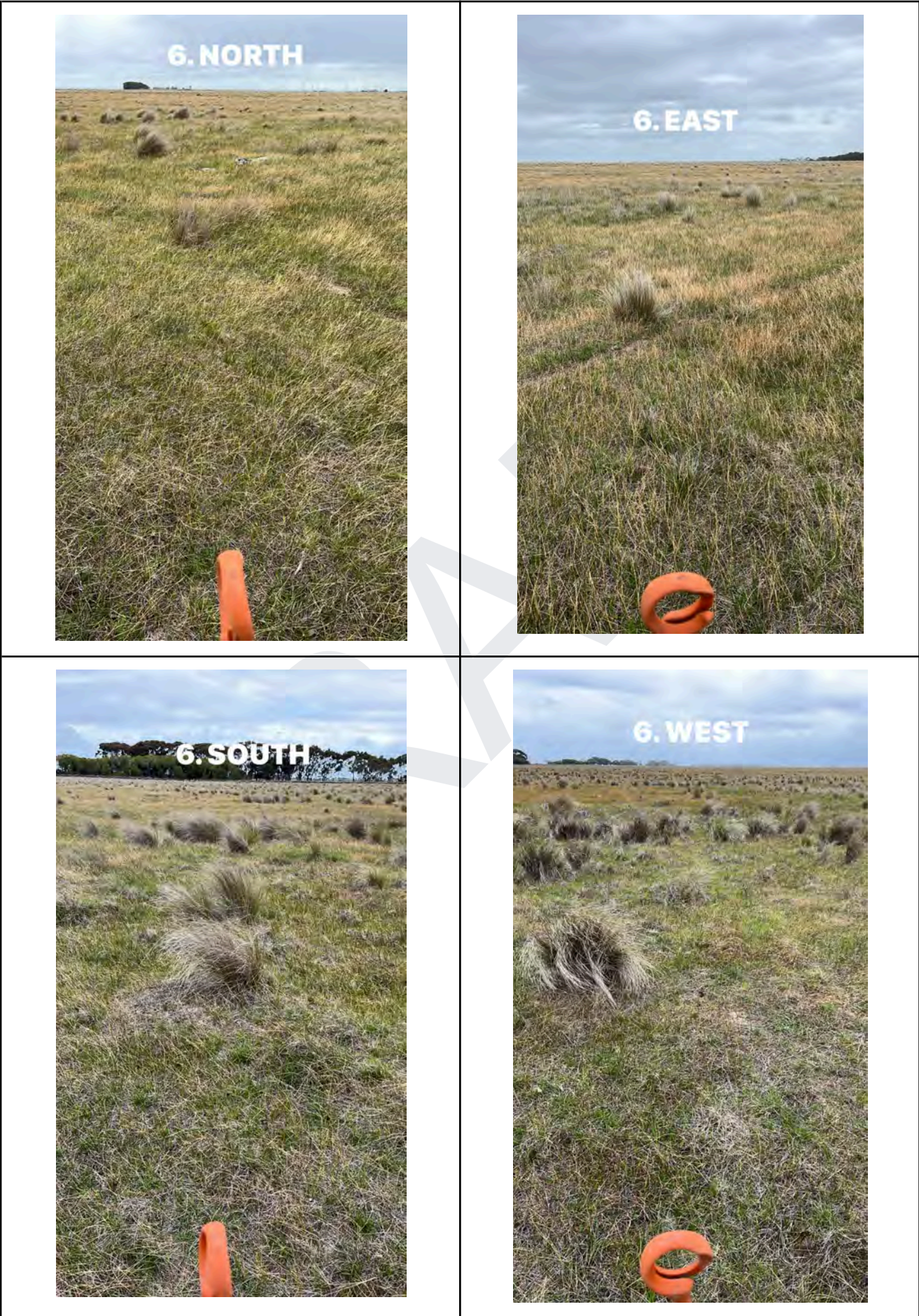


**Photo Point 5**





**Photo Point 6**





**Photo Point 7**





**Photo Point 8**

*Note: no North facing Image as this photo point is on the northern boundary east side of the offset*



## **Appendix N: Condition 7 Correspondence**

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



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---

**From:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>

**Sent:** Friday, 23 December 2022 11:58 AM

**To:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>

**Cc:** Warren Price <[Warren.Price@gww.com.au](mailto:Warren.Price@gww.com.au)>; [cranyard@ehpartners.com.au](mailto:cranyard@ehpartners.com.au); [melody.valentine@beca.com](mailto:melody.valentine@beca.com); [Fran.Soler@beca.com](mailto:Fran.Soler@beca.com); [offsets@tfn.org.au](mailto:offsets@tfn.org.au); EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>; Moore, Olivia <[Olivia.Moore@dcceew.gov.au](mailto:Olivia.Moore@dcceew.gov.au)>

**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action [SEC=OFFICIAL]

### **This Message Is From an External Sender**

This message came from outside your organization.

Please click the Report Suspicious button if you weren't expecting this email or think it may be malicious.

[Report Suspicious](#)

Dear Mr. Campbell,

Thank you for clarifying the date of commencement of the action and please find attached a letter regarding the notification.

Condition 7 of the approval requires the approval holder to notify the department in writing of commencement of the action within 10 business days after the date of commencement of the action.

Based on the notifications that you have provided, and with regard to the requirement of Condition 7, the department has formed the view that a breach of Condition 7 of the EPBC 2018/8260 approval has been substantiated. This is based on your failure to notify the department of commencement of the action within 10 business days of the date that the action commenced. However, given the nature of the contravention and the circumstances surrounding the breach of the condition, the department has decided to take no further compliance action regarding this matter.

Please note that section 142 of the *Environment Protection and Biodiversity Conservation Act 1999* requires an approval holder to comply with conditions attached to an approval. Penalties may apply to approval holders who contravene conditions.

### **Offset Management Plan**

Please provide clarification on what actions have been undertaken to implement the Offset Management Plan prior to commencement of the action in accordance with condition 5 of the approval.

Please provide a response to the department by **COB 20 January 2023**.

If you have any questions regarding this matter, please contact the department by return email.

Kind regards,

**Olivia Moore**

**Compliance Officer**

**Environmental Audit Section | Environment Compliance Branch | Chief Counsel Division**

**Department of Climate Change, Energy, the Environment and Water**

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parks ACT 2600

(GPO Box 3090) ACT 2601 Australia

**E** [olivia.moore@dcceew.gov.au](mailto:olivia.moore@dcceew.gov.au) | **P** 0476 347 733

**DCCEEW**.gov.au ABN 63 573 932 849

---

**From:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>

**Sent:** Thursday, 22 December 2022 12:59 PM

**To:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>

**Cc:** Warren Price <[Warren.Price@gww.com.au](mailto:Warren.Price@gww.com.au)>; [cranyard@ehpartners.com.au](mailto:cranyard@ehpartners.com.au);  
[melody.valentine@beca.com](mailto:melody.valentine@beca.com); [Fran.Soler@beca.com](mailto:Fran.Soler@beca.com); [offsets@tfn.org.au](mailto:offsets@tfn.org.au)

**Subject:** RE: EPBC 2018-8260 - Parwan to Melton Pipeline - Commencement of the Action  
[SEC=OFFICIAL]

Hi Olivia,

Confirming receipt of the below email.

The date of commencement of the action was Monday 21 November. The trigger of the action was the clearing of existing topsoil within the construction footprint by an excavator.

Cheers,

**Stephen Campbell**

Western Irrigation Network (WIN) Engineering Co-Ordinator

**M** 0437 098 971

[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



**[gww.com.au](http://gww.com.au)**

---

## **Appendix O: Condition 13 Correspondence**

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

**From:** [epbcmonitoring](#)  
**To:** [Stephen Campbell](#); [epbcmonitoring](#)  
**Cc:** [Fran Soler](#); [Melody Valentine](#); [Caitlin Tolsma](#); [Offsets Program](#)  
**Subject:** RE: EPBC 2018/8260 Offset Site Monitoring Reports [SEC=OFFICIAL]  
**Date:** Thursday, 9 January 2025 8:11:12 AM  
**Attachments:** [image002.jpg](#)  
[image008.jpg](#)  
[image009.jpg](#)  
[image010.jpg](#)  
[image011.jpg](#)  
[image012.jpg](#)  
[image013.jpg](#)

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OFFICIAL

Dear Stephen,

Thank you for your submission of the Annual Compliance Monitoring Report for EPBC 2018/8260.

The department acknowledges receipt of this submission, and it will be reviewed accordingly.

For further information please do not hesitate to contact the EPBC Monitoring Mailbox.

Kind regards,

**EPBC Monitoring**

**Compliance and Enforcement Branch | Environmental Permitting and Compliance Division**

**Department of Climate Change, Energy, the Environment and Water**

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parkes ACT 2600  
(GPO Box 3090) ACT 2601 Australia

**Pat Maginness**

**Senior Compliance Officer – Approvals Compliance Section**

**Compliance and Enforcement Branch | Environmental Permitting and Compliance Division**

**Department of Climate Change, Energy, the Environment and Water**

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parkes ACT 2600

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**M 0409 617 974**

**E** [patrick.maginness@dcceew.gov.au](mailto:patrick.maginness@dcceew.gov.au)

**DCCEEW.gov.au** ABN 63 573 932 849



---

OFFICIAL

**From:** Stephen Campbell <Stephen.Campbell@gww.com.au>  
**Sent:** Wednesday, 8 January 2025 1:00 PM  
**To:** epbcmonitoring <epbcmonitoring@dcceew.gov.au>  
**Cc:** Fran Soler <Fran.Soler@beca.com>; Melody Valentine <melody.valentine@beca.com>; Caitlin Tolsma <caitlint@tfn.org.au>; Offsets Program <offsets@tfn.org.au>  
**Subject:** EPBC 2018/8260 Offset Site Monitoring Reports

Hello,

As part of the Offset Management Plans associated with EPBC 2018/8260, please see attached annual compliance monitoring report for the Mt Gow offset site associated with this approval. This monitoring report is for the second year post the commencement of the action. The Cressy offset site did not have any monitoring requirements this year under the OMP.

Additionally, contained within the below link you will also see the relevant landowner reports completed for both Cressy and Mt. Gow.

<https://we.tl/t-bt9WhQe2ni>

Any questions, please let me know.

Kind Regards,

**Stephen Campbell**  
Western Irrigation Network (WIN) Engineering Co-Ordinator

**M** 0437 098 971  
[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024





[gww.com.au](http://gww.com.au)

---

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**From:** [EPBC Monitoring](#)  
**To:** [Stephen Campbell](#); [EPBC Monitoring](#)  
**Cc:** [Fran Soler](#); [Melody Valentine](#)  
**Subject:** RE: EPBC 2018/8260 - Condition 11: Annual Compliance Monitoring [SEC=OFFICIAL]  
**Date:** Thursday, 8 February 2024 3:14:51 PM

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Dear Stephen,

Thank you for the submission of the Year 1 Offset Monitoring Reports for the two EPBC 2018/8260 offset sites.

The department acknowledges receipt of these submission, and they will be reviewed accordingly.

For further information please do not hesitate to contact the EPBC Monitoring Mailbox.

Kind regards,

**Freya Brown**

**Administration Officer**

Environmental Permitting and Compliance Division | Compliance and Enforcement Branch  
Approvals Compliance Section

Department of Climate Change, Energy, the Environment and Water

Ngunnawal Country, John Gorton Building, King Edward Terrace, Parkes ACT 2600

GPO Box 3090 ACT 2601

E [EPBCmonitoring@dcceew.gov.au](mailto:EPBCmonitoring@dcceew.gov.au)

DCCEEW.gov.au ABN 63 573 932 849



**Acknowledgement of Country**

Our department recognises the First Peoples of this nation and their ongoing connection to culture and country. We acknowledge Aboriginal and Torres Strait Islander Peoples as the Traditional Owners, Custodians and Lore Keepers of the world's oldest living culture and pay respects to their Elders past, present and emerging.

---

**From:** Stephen Campbell <[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)>

**Sent:** Tuesday, January 30, 2024 2:26 PM

**To:** EPBC Monitoring <[epbcmonitoring@dcceew.gov.au](mailto:epbcmonitoring@dcceew.gov.au)>

**Cc:** Fran Soler <[Fran.Soler@beca.com](mailto:Fran.Soler@beca.com)>; Melody Valentine <[melody.valentine@beca.com](mailto:melody.valentine@beca.com)>

**Subject:** EPBC 2018/8260 - Condition 11: Annual Compliance Monitoring

You don't often get email from [stephen.campbell@gww.com.au](mailto:stephen.campbell@gww.com.au). [Learn why this is important](#)

Hello,

In accordance with Condition 11 of EPBC 2018/8260, please see below link to the annual compliance monitoring for the two offset sites associated with this approval. These monitoring reports are for the first year post the commencement of the action and are located directly below the Offset Management Plans (all of which are publicly available).

[Western Irrigation Network \(WIN\) | Greater Western Water \(gww.com.au\)](#)

Any questions, please let me know.

Kind Regards,

**Stephen Campbell**

Western Irrigation Network (WIN) Engineering Co-Ordinator

M 0437 098 971

[Stephen.Campbell@gww.com.au](mailto:Stephen.Campbell@gww.com.au)

Butlers Rd, Mt Cottrell, 3024



[gww.com.au](http://gww.com.au)

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## **Appendix P: Letter Agreeing to Audit Team & Criteria**

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



**Australian Government**  
**Department of Climate Change, Energy,  
the Environment and Water**

Our ref: EPBC 2018/8260

Stephen Campbell  
Western Irrigation Network Engineering Co-Ordinator  
Greater Western Water  
Butlers Rd  
MT COTTRELL VIC 3024

Dear Stephen,

**RE: Parwan to Melton Pipeline, Victoria (EPBC 2018/8260)**

I refer to your correspondence dated 16 December 2024, submitting the audit criteria for the Parwan to Melton Pipeline, Victoria (EPBC 2018/8260), approved under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 4 May 2021.

I note the nominated audit team of Melody Valentine and Francesca Soler from CH2M Beca Ltd.

I approve the audit criteria prepared by CH2M Beca Ltd, and request that you submit the independent audit report to the Department of Climate Change, Energy, the Environment and Water by no later than 11 April 2025. I look forward to receiving a copy of the audit report.

If you have any questions regarding this matter, please contact Christopher Kerin at [audit@dcceew.gov.au](mailto:audit@dcceew.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Th'.

Thomas Long  
Director Environmental Audit  
Compliance and Enforcement Branch  
20 January 2025

## **Appendix Q: Mt. Gow OMP**

---

Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024

Final Report

# Offset Management Plan: Mount Gow, Shelford, Victoria (EPBC 2018/8260)

Prepared for

CH2M Beca (on behalf of Western Water)

February 2021



Ecology and Heritage Partners Pty Ltd



## DOCUMENT CONTROL

---

<b>Assessment</b>	EPBC 2018/8260: Offset Management Plan
<b>Address</b>	Mount Gow, Shelford, Victoria
<b>Project number</b>	10223
<b>Project manager</b>	Claire Ranyard (Senior Botanist)
<b>Report reviewer</b>	Aaron Organ (Director – Principal Ecologist)
<b>Mapping</b>	Dr Monique Elsley (GIS Coordinator)
<b>File name</b>	10223_EHP_Parwan-Melton-Pipeline_OMP_Final_09022021
<b>Client</b>	CH2M Beca (on behalf of Western Water)
<b>Bioregion</b>	Victorian Volcanic Plain
<b>CMA</b>	Corangamite
<b>Council</b>	Golden Plains Shire

Report versions	Comments	Comments updated by	Date submitted
Draft 01	Submitted to DAWE	-	30/10/2019
Draft 02	Addressed first round of comments from DAWE	AF	28/02/2020
Draft 03	Addressed second round of comments from DAWE	CR	12/05/2020
Draft 04	Addressed third round of comments from DAWE	CR	28/05/2020
Draft 05	Addressed fourth round of comments from DAWE	CR	20/07/2020
Final	Removed 3.45 NTGVVP offset from OMP	CR	09/02/2021

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## GLOSSARY

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Acronym	Description
Approval holder	means the persons to whom the approval is granted, or to whom the approval is transferred under section 145B of the EPBC Act (persons taking the action).
CaLP	<i>Catchment and Land Protection Act 1994</i>
CMA	Catchment Management Authority
DELWP	Victorian Department of Environment, Land, Water and Planning
DEWHA	(former) Commonwealth Department of Environment, Water, Heritage and the Arts
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DSEWPaC	(former) Commonwealth Department of Sustainability, Environment, Water Population and Communities.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
GSM	Golden Sun Moth
NES	National Environmental Significance
NTGVVP	Natural Temperate Grassland of the Victorian Volcanic Plain
OMP	Offset Management Plan
TfN	Trust for Nature



## DECLARATION OF ACCURACY

---

I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying this Management Plan (EPBC 2018/8260: Offset Management Plan: Parwan to Melton Pipeline, Victoria) is complete, current and correct.
2. I am duly authorised to sign this declaration on behalf of the approval holder.
3. I am aware that:
  - a. Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.
  - b. Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) where the person knows the information or document is false or misleading.
  - c. The above offences are punishable on conviction by imprisonment, a fine or both.

---

Signed

---

Full name (please print)

---

Organisation (please  
print)

---

Date

## EXECUTIVE SUMMARY

---

### Introduction

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed recycled water pipeline, Parwan to Melton, Victoria (EPBC 2018/8260).

The intention of this OMP is to detail the offset strategy to mitigate the loss of 5.26 hectares of Golden Sun Moth *Synemon plana* (GSM) habitat at the development site. This is achieved by outlining management actions for the protection of 26.5 hectares of GSM habitat at a site located at Mount Gow, Victoria. This OMP has been written in consultation with the landowner of the offset site (██████████) and is intended to be implemented by the landowner (Note: Landowner name removed from document during public comment period to protect privacy).

The proposed GSM offsets outlined within this OMP comprise a parcel/s of land and not the entire Mount Gow property. This will be managed concurrently with the area covered by this management plan.

### Proposed Offset Site

A large portion of the proposed offset area within the Mount Gow property contains patches of high-quality Plains Grassland, with the remaining areas of lesser quality due to a higher exotic grass cover. The offset site contains known habitat for GSM and patches of high-quality Plains Grassland which meet the key criteria for listing as the nationally significant community *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP). In accordance with the *Planning and Environment Act 1987*, 26.5 hectares of GSM habitat will be protected on-title through a Section 173 Agreement as an interim mechanism, and secured via a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* within 24 months post approval.

### Management Actions

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat, through the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context. The landholder will adopt an adaptive management approach to allow flexibility to respond appropriately and effectively to uncertainties involved in ecological processes. This will ensure that management objectives are being met while allowing for altered circumstances to be included in the management of the offset site.

Any proposed changes to the management actions for the offset site contrary to those specified within this plan must be approved by the Commonwealth Department of Agriculture, Water and Environment (DAWE) prior to implementation. Any proposed uses or development of the offset site which conflict with the landowners' commitments or maintenance/improvement of the community are not permitted under this plan.

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# 1 INTRODUCTION

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## 1.1 Background

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed development for the Parwan to Melton Pipeline, Victoria (EPBC 2018/8260).

A referral for the action was submitted for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2018/8260). The referral will be assessed under Preliminary Documentation, which requires the proponent to prepare and implement an Offset Management Plan to compensate for the removal of Golden Sun Moth (GSM) habitat.

The intention of this OMP is to detail the ongoing management actions required to protect 26.5 hectares of GSM habitat at a third-party offset site located at Mount Gow, Shelford, Victoria, in order to offset the proposed impacts. The OMP has been written in consultation with the landowner of the Mount Gow offset site ( [REDACTED] ) and management will be implemented by the landowner.

The OMP is both strategic and focused on management actions and performance measures (quantitative amounts indicated, where appropriate) in order to address management issues and key threats across the offset site.

## 2 OBJECTIVES AND CONTEXT OF THE PROJECT

---

### 2.1 Impact Site

The impact site (study area) for the proposed Parwan to Melton recycled water pipeline is located mostly within private property south of Nerowie Road and is bounded by Parwan South Road (west) and Butlers Road, approximately 60 kilometres north west of Melbourne's CBD. The impact site is long and linear and comprises the road reserve of Nerowie Road and intersects Bucklers Road, Green Hill Road, and Eynesbury Road in Eynesbury (from west-east).

At the time that the EPBC referral (2018/8260) was lodged in August 2018, two alignments were considered: a preferred and alternative alignment. The confirmed study area is the preferred (or southern) alignment, which is approximately 13 kilometres long, with a construction footprint of 35 hectares. The study area is comprised of road reserves and agricultural land used mostly for grazing and some cropping, which is generally flat until it intersects the Werribee River. Patches of native vegetation identified along the length of the pipeline are interspersed with Chilean Needle-grass *Nasella neesiana*, a preferred food plant of the GSM.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool (DELWP 2020a), the study area occurs within the Victorian Volcanic Plain bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and transects between the Melton Shire Council and Moorabool Shire Council municipalities. Relevant Melton Planning Scheme overlays which apply to the study area are the Design and Development Overlay – Schedule 2 (DDO2), Environmental Significance Overlay – Schedule 1 (ESO1) and 4 (ESO4). The Green Wedge Zone (GWZ) also applies to the study area.

The proposed action at the impact site will have a direct impact on 10.357 hectares of Golden Sun Moth habitat and 4.961 hectares of NTGVVP. The objectives of this OMP are to offset the loss of Golden Sun Moth habitat. Golden Sun Moth is listed as Critically Endangered under the EPBC Act.

### 2.2 Offset Site

#### 2.2.1 Description of the Offset Site

The third-party offset site (offset site) is located at a private property in Mount Gow, Shelford, Victoria, approximately 63 aerial kilometres south-west of the impact site in Parwan, Victoria (Appendix 3). The offset site will protect 26.5 hectares of GSM habitat and is part of a larger property intersected by Warrambine Creek and abutting 35 kilometres of Mount Gow Road. All identified GSM habitat within the property is proposed to be managed for offset and conservation purposes.

The property contains a northern and southern area which contain patches of NTGVVP and GSM habitat and were initially mapped in 2015 by AECOM, with the remaining areas comprised of moderate quality Plains Grassland interspersed with introduced vegetation (AECOM 2015). The current extent of NTGVVP and GSM habitat was verified in January and February 2020 and during the 2019/20 flying season, respectively (Ecology and Heritage Partners 2020a, Appendix 3). GSM were recorded in the northern half of the offset area, with numbers having increased substantially since the AECOM 2015/16 surveys, with 50+ GSM recorded in the 2019/20 survey season and only five recorded in the 2015/16 season.

The GSM habitat outlined in this OMP will be protected on-title through a Section 173 Agreement under the *Planning and Environment Act 1987* as an interim mechanism, and a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* in perpetuity for the area covered by this OMP, with the management actions specified within the Section 173 Agreement alike to those specified within this OMP specific to GSM. The offset site selected is part of a larger patch intersected by Warrambine Creek in the northern area, which comprises the required 26.5 hectares of GSM habitat (Ecology and Heritage Partners 2020a, Appendix 3).

According to the Department of Environment, Water, Land and Planning (DEWLP) Native Vegetation Information Management Tool (NVIM) (DEWLP 2020), the offset site occurs within the Victorian Volcanic Plain Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Golden Plains Shire municipality.

### **2.2.2 Tenure Arrangements**

The proposed offset site is privately owned by [REDACTED] and is currently in the process of being protected through a Section 173 Agreement under the *Planning and Environment Act 1987*. Further, the offset site will be protected via a Trust for Nature conservation covenant within 24 months of the EPBC Act referral (2018/8260) approval being granted. Once the Trust for Nature Covenant is secured on title, it is proposed that the Section 173 Agreement will be removed.

### **2.2.3 Environmental Condition and Values**

The offset site contains a population of GSM, which reside within the areas of NTGVVP and the surrounding patches of Plains Grassland. This OMP will focus on the protection of one matter of NES relevant to the proposed action (GSM).

### 3 RISK ASSESSMENT

An assessment of potential risks associated with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.

**Table 1.** Risk assessment and management table for specific offset site for GSM (Appendix 1).

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To legally secure approved offset properties for conservation.	Failure to legally secure approved offset site	Engage with expert offset brokers	Unlikely	Moderate	Low	n/a	Engage a consultant	Low risk: the site is currently in the process of being secured with an on-title agreement (Section 173 Agreement). Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
	Legislative reform prejudices proposed tenure arrangements for offset properties.	Monitor DAWE, DEWLP LGAs and other legislative bodies on developments to offsets	Rare	High	Low	Newsletters, expert liaison, press releases and direct contact.	Adjust offset calculations accordingly.	

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To achieve performance targets and completion criteria for all MNES	Landowner-proponent agreements fail to adequately address management commitments in the offset plan	Engage an expert to manage this process. Ensure all impacts are suitably offset.	Unlikely	High	Medium	Quality assurance and monitoring	Revise on-title and/or proponent agreements.	The site will be protected through a Section 173 Agreement. The Section 173 Agreement will be placed on-title and therefore undergo a further review by the Titles Office. Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
To achieve performance targets and completion criteria for all MNES	Adjacent/regional landowner's land management practices fail to support attainment of offset outcomes.	Liaise with adjacent landholders. Ensure understanding of offset objectives	Unlikely	High	Medium	Adjacent land practices begin to negatively impact offset site.	Take steps to halt negative impacts. Follow up with stakeholder discussions	The adjacent land parcels contain agricultural land (grazing and/or cropping). Based on the current land management practices in the region and it is unlikely that any foreseeable land management practices within the vicinity will impact the offset site.
To achieve performance targets and completion criteria for all MNES	Insufficient funds provided by proponent to implement the plan.	Ensure reputable land holder to implement plan.	Unlikely	High	Medium	Monitoring and/or annual reporting	Review plan for cost efficiencies.	The offset funds provided by the proponent will be deposited to the land holder. The landholder



Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To achieve performance targets and completion criteria for all MNES	Stochastic events (wildfire/drought/flood) prejudice attainment of interim performance targets and/or completion criteria for MNES.	Ensure appropriate biomass management. Plan for scheduling delays.	Possible	High	Medium	Monitoring and/or annual reporting	Apply adaptive management to ensure the objectives of the OMP are not compromised.	-
	Approved development on/near project/offset prejudicing plan outcomes	Ensure proper stakeholder engagement to prevent poor outcomes.	Unlikely	High	Medium	Advertisement of planning scheme amendments/planning permit applications	Objection to proposed development/laisse with proponent to ensure the proposed development does not compromise the objectives of the OMP.	The offset site is within a semi-rural agricultural landscape, as such, there is a low likelihood of development within adjacent properties. The ecological values within the offset site do not rely on habitat values within adjacent land.
	Drought	Apply adaptive management to ensure the site is not over-grazed	Likely	Moderate	Medium	Drought Event	Apply adaptive management to ensure the site is not over-grazed	The offset site sits within 125 hectares of similar quality grassland within the property and is contiguous with native vegetation along Stony Creek and Warrambine Creek in neighbouring properties. The offset site and adjacent areas
	Wildfire		Likely	Moderate	Medium	Wildfire Event		

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
GSM habitat improved								have been historically subject to frequent drought and occasional wildfire. As such, the GSM population is likely to survive such an event.
	Uncontrolled grazing	Maintain fences and install temporary fencing, if required (Section 5.5.3.1)	Highly Likely	Moderate	Unlikely	Continual monitoring	Repair permanent fences, and/or install temporary exclusion fences.	The strategic grazing regimes specified within this plan aim to shift species dominance to favour native species abundance and diversity, improving the ecological condition and habitat.
		Exclude stock during (October-November) (see Section 5.5.6 for further information on exclusion period)						
	High biomass levels preventing establishment of native herbs (see Section 5.5.6.4 for performance indicators)	Undertake pulse grazing (Section 5.5.6.2)	Highly Likely	Moderate	Possible	Annual monitoring	Apply pulse grazing in appropriate season to reduce biomass levels (Section 5.5.6.2)	Further, strategic grazing strategies will improve and maintain recruitment space required for native plants to establish, further improving species diversity over time.
Grazing excluded between October-November annually, in perpetuity (Section 5.5.6.2)								
Loss of biodiversity due to competition with weeds (see	Spot spraying of weeds (Section 5.5.4.2)	Likely	Moderate	Possible	Annual monitoring	Undertake weed control activities (Section 5.5.4.2)	The Offset Management Plan includes actions to reduce weed cover, improving the ecological	

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
	Section 5.5.4.3 for performance indicators)	Undertake pulse grazing (Section 5.5.4.2)						condition of the site over the 10 year period.
		Annual monitoring to adapt future control works and targets (Section 5.5.4.2)						
	Loss of biodiversity due to pest animal activity (see Section 5.5.5.3 for performance indicators)	Rabbit warrens or fox dens are controlled (Section 5.5.5.2)	Likely	Moderate	Possible	Annual monitoring	Undertake pest control activities (Section 5.5.5.2)	The Offset Management Plan includes actions to reduce pest animal activity, thereby reducing grazing/soil disturbance by the European Rabbit. As a result, the GSM population is likely to improve and expand within the site as it is managed.

**Notes.** L = Likelihood; C = Consequence; RR = Residual Risk

## 4 UNAVOIDABLE LOSS AND OFFSET OBLIGATIONS

### 4.1 Unavoidable Loss

The proposed development at the impact site (Parwan to Melton Pipeline) will result in the removal of the following Matters of National Environmental Significance (NES):

- 10.357 hectares of Golden Sun Moth;
- 4.961 hectares of *Natural Temperate Grassland of the Victorian Volcanic Plain*, and;
- 0.266 hectares of Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia

### 4.2 Offset obligations, user inputs and applying the offset guide

#### 4.2.1 Golden Sun Moth

Based on the EPBC Act offset calculator (DSEWPaC 2012b), the protection and management of 26.5 hectares of GSM habitat, with the proposed offset site as an offset, mitigates 100.19% of the impact to remove 5.26 hectares of GSM habitat (Table 2; Appendix 2). As such, 100% of the offset requirements will be met through direct offsets and are considered to be in accordance with the Commonwealth environmental offset policy (DSEWPaC 2012a).

**Table 2** EPBC Act Offset Calculator (Golden Sun Moth) for Mount Gow Offset site

Offset Criteria	Response
<b>Impact Site</b>	
<b>Impact Location</b>	Parwan to Melton Pipeline: south of Nerowie Road, Parwan, VIC
<b>Habitat to be removed</b>	5.26 hectares of Golden Sun Moth habitat (GSM)
<b>Habitat quality</b>	5/10. A total of 991 moths were recorded during the 2016/17 flight season. However, the majority of moths were recorded along the alternative alignment, which will no longer be impacted. The GSM habitat within the impact area is also dominated by Chilean Needle-grass <i>Nassella neesiana</i> , which is a noxious weed. Therefore, the habitat quality at the impact area is of moderate quality (DSEWPaC 2012b).
<b>Offset Site</b>	
<b>Offset location</b>	Mount Gow, Victoria
<b>Risk-related time horizon</b>	20 years. The land will be managed in perpetuity for conservation purposes for Golden Sun Moth.
<b>Time until ecological benefit</b>	10 years. The existing habitat condition is expected to be improved over the 10-year active management schedule detailed in the Offset Management Plan.

Offset Criteria	Response
<p><b>Start area and quality of offset site</b></p>	<p>26.5 hectares in total, of this 20.5 hectares has an assigned start quality of 5/10. This area is located in the northern half of the offset site, where a higher number of GSM were recorded, and a lower cover of exotic grass was present. Within the 20.5-hectare area includes 3.45 hectares of NTGVVP. The remaining six hectares has a start quality of 4/10, due to the higher cover of exotic grass and lower number of GSM recorded.</p> <p>The offset site was assessed by AECOM during the GSM flight season 2014/15 (AECOM 2015) and again by Ecology and Heritage Partners in the 2019/2020 flight season (Appendix 3). The GSM habitat surveyed previously was of low-moderate quality, with four moths recorded at Warrambine Creek and one moth recorded along Mount Gow Road during the 2014/15 flight season (AECOM 2015). In 2019, GSM abundance had increased to 50+ individuals in the northern area and GSM habitat is considered to be of moderate quality (Ecology and Heritage Partners 2020a). The patch of GSM habitat selected for the offset site is located in the northern area along Warrambine Creek and the habitat quality is based on (DSEWPaC 2012b):</p> <ul style="list-style-type: none"> <li>• Site condition: 4-5/10. The site supports a diversity of native grasses, including key grass species associated with Golden Sun Moth (Wallaby-grass <i>Rytidosperma</i> spp., Spear-grass <i>Austrostipa</i> spp.) with at least 25% cover of native grass; The starting site condition was assessed through a Vegetation Quality Assessment (VQA) using the habitat hectare assessment method. The key areas which contribute to these scores are understory diversity, weed cover and recruitment. The VQA score for site condition of the moderate quality areas was 26/75, with an understory score of 10/25, weed score of 2/15 and recruitment score of 3/10. Whilst the understory did have a number of lifeforms present, the diversity and cover of species within each lifeform was lower than the EVC benchmark diversity and cover. Further, the presence of exotic grasses, primarily Toowoomba Canary-grass, negatively impacted both the weed and recruitment score.</li> <li>• Site context: 8/10. Based on a review of aerial photography, predictive mapping of native vegetation extent, and knowledge of Golden Sun Moth populations and habitat in the region, the site is likely to form part of a larger habitat corridor which follows Warrambine Creek, where a population of over 100 has been recorded north of the current proposed offset site (EPBC 2018/8167). The Victorian Biodiversity Atlas has multiple records of Golden Sun Moth scattered within 10-kilometres of the study area, indicating that other suitable habitat exists within the broader region, and the population within the offset site is not an isolated population. Threats that occur to the population within and adjacent to the offset site include the loss of suitable habitat through land clearance (cropping) or disturbance (heavy grazing/slashing).</li> <li>• Species 'stocking rate' (population density): 4/10. A small population of Golden Sun Moth was initially recorded within the offset site (+4 individuals) (AECOM 2015). The recent 2019 surveys recorded higher numbers of GSM within the proposed offset area (Ecology and Heritage Partners 2020a, Appendix 3), with 50+ individuals recorded (Figure 1) which has increased the species stocking rate from a median 3/10 (AECOM 2015) to 4/10.</li> </ul> <p>The habitat at the offset site is of moderate quality for GSM. This is due to a native vegetation cover of at least 20% including key food resources (Wallaby-grass, Spear-grass) present within the offset area. The habitat is not considered of high quality, due to the relatively high cover of Phalaris (between 25-40% in NTGVVP patches where GSM are recorded), which is not a key food plant for GSM and therefore reduces the quality of the available habitat at the offset site. The definition of suitable GSM habitat has been based on information provided in the species conservation advice and related documents (i.e. SPRAT (DoE 2019), Approved Conservation Advice (DAWE 2013). The combination of habitat factors presented has resulted in the starting quality of GSM habitat being</p>

Offset Criteria	Response
	<p>assessed at 5/10 for the northern 20 hectares, and 4/10 for a six hectare area directly below the 20.5 hectare patch.</p>
<b>Risk of loss without offset</b>	<p>5%. There are currently no formal protection mechanisms that protect the ecological values present within the offset site. Without protection and ongoing management as an offset site, there is a degree of uncertainty regarding the future condition of the land.</p> <p>As the broader offset property is zoned Farming Zone (FZ), there is a risk that the Golden Sun Moth will be lost by intensified agricultural use (e.g. cropping or intensified grazing). Inappropriate grazing regimes by hard-hooved livestock at higher stocking densities will result in compaction of the soil, which negatively impacts Golden Sun Moth. Intensive agricultural activities such as ploughing, sowing pasture grasses, fertiliser application and/or tilling the soil is likely to result in complete loss of the Golden Sun Moth population. The risk posed by intensification of agricultural use is evidenced by cropping activities in properties surrounding the offset site, which are not adjacent to Warrambine Creek. A protective covenant provides legal protection, averting this risk of losing the Golden Sun Moth community within the site.</p>
<b>Future quality without offset</b>	<p>3-4/10. Without protection as an offset site there is uncertainty regarding the future condition of the land. Without increased management as an offset, a reduction in quality over time is likely due to continued pest and weed encroachment from adjoining properties, as well as perennial weeds that exist elsewhere within the broader property, as well as a lack of land management, including biomass management resulting in a reduction in species diversity.</p> <p>Relatively small areas within the site have a high cover (40%) of the weed Phalaris, which is a fast-growing species that can quickly outcompete native grass species such as Wallaby-grass and Spear-grass. Without increased management, this weed is likely to displace plants that constitute important food resources for the Golden Sun Moth.</p> <p>Without strategically designed grazing strategies, stock can overgraze/undergraze Golden Sun Moth habitat, leading to a shift in introduced species dominance and/or, soil compaction, which reduces the viability of the offset site to support Golden Sun Moth.</p> <p>Rabbits were recorded within and nearby the offset site. Without increased management, rabbits are likely to prevent the recruitment of host plants, leading to a decline in the Golden Sun Moth community.</p>
<b>Risk of loss with offset</b>	<p>1%. There is a 1% chance that the GSM population will be lost with the offset being protected and managed in accordance with the OMP placed on-title. There is a low level of risk given the evidence of recent voluntary conservation works (weed control targeting GSM known habitat) within the site, these works have proved to be successful, demonstrating the landholder's capability in managing threats. Further, the availability of GSM habitat adjacent to the offset site further consolidates habitat within the property.</p>
<b>Future quality with offset</b>	<p>6/10. There is a high level of confidence that the future quality of the Golden Sun Moth offset site within both quality patches will increase through the active implementation of the various actions outlined in the Offset Management Plan. there is a high likelihood that the management actions provided in the Offset Management Plan will lead to an increase in the species' habitat quality, site occupancy and population size. The management actions outlined in this Plan are well known and proven, and therefore there is a high likelihood that the quality of the habitat will improve in the future (DEWHA 2009a, 2009b).</p> <p>The smaller six- hectare patch is believed to be able to achieve a two-point increase, due to the connectivity to the surrounding areas of better quality, small size and through the implementation of the management actions over the 10 year management period. Currently, the exotic vegetation</p>

Offset Criteria	Response
	<p>cover is estimated at up to 40% cover in the moderate quality patches of habitat (which correspond with all areas not recorded as NTGVVP within the offset area). It is expected that at the end of the 10-year management period the exotic vegetation cover will not exceed 30%. Further, this will be measured through a demonstrated increase in the VQA site condition score, primarily in the areas of moderate quality Golden Sun Moth habitat. This area currently contains a higher biomass and weed cover, resulting in a recruitment score of 3/10 and a weed score of 2/15, as detailed in the site assessment report (Ecology and Heritage Partners 2020a). It is expected that at the end of the 10-year management of the site, the weed score will have improved to at least a 6/15, and the recruitment score to a 6/10. The weed and recruitment score will improve through the management of exotic grasses, where biomass will be monitored to ensure adequate inter-tussock spacing, and targeted control of Toowoomba Canary-grass will be undertaken. The targeted control of Toowoomba Canary-grass will provide opportunity for native grass and herb recruitment, increasing the cover of native species and ultimately improving the understory score to a minimum of 15/25. Further detailed on weed control actions are detailed in Section 5.5.4.</p> <p>Due to the commitment of the current landowner and investment in the active management of the site these factors provide a high level of confidence that the future quality of the offset will increase (i.e. a score of six is realistic). This is supported by the increase in GSM stocking density since 2015 (AECOM), where recent surveys (2019 flying season) recorded 50+ GSM flying at the northern area of the proposed offset site. Previously, AECOM (2015) recorded &lt;5 GSM at the same location. This suggests that current management practices (e.g. slashing phalaris) have been successful in improving habitat and providing inter-tussock space for Golden Sun Moth. Further, management actions and targets as detailed in this OMP will achieve the end result of the entire 26.5 hectare area being of similar high quality for GSM. Management actions within the six-hectare area will be focused on reducing the cover of Toowoomba Canary-grass and improving the cover and abundance of key native habitat plants for GSM, primarily Wallaby-grass and Spear-grass. The presence of Toowoomba Canary-grass was the driving factor in the reduction in quality, with other key threats, such as change in land use, soil compaction, additional weed invasion and inappropriate fire regimes all managed within this OMP. Given that Toowoomba Canary-grass is the main item causing a reduction in habitat quality for GSM, it is the belief that this six hectare area will be improved to demonstrate a two point difference between starting condition (with respect to stocking density and site condition improvement) and future condition over the course of the 10 year management plan.</p> <p>The offset site is to be secured and managed for conservation purposes in perpetuity, with implementation of a management plan incorporating weed control, biomass control and regular monitoring, aiming to enhance native biodiversity.</p> <p>The species was previously observed in grassland areas with at least 20% native grass cover (wallaby-grass <i>Rytidosperma</i> spp., spear-grass <i>Austrostipa</i> spp.) and weed management is necessary to ensure that native grass cover is maintained.</p> <p>Appropriate livestock grazing management is necessary to ensure that soil compaction is minimised and native grasses are not overgrazed. Low density grazing can be beneficial for maintaining GSM habitat.</p> <p>Pest management is required to ensure rabbit populations are managed and numbers are reduced to prevent over-grazing.</p>
<p><b>Confidence in result</b></p>	<p>80-90%. Confidence in applied scores is relatively high due to careful consideration of the offset site, existing condition and evidence of the landholder's capability to manage threats through recent conservation works. The site will be protected through a Section 173 Agreement under the <i>Planning and Environment Act 1987</i> with Council. Council undertakes a quality assurance process</p>

Offset Criteria	Response
	<p>for all offset sites to ensure the landowner agreements address the management commitments in the plan.</p> <p>Further, the site will be secured via a Trust for Nature covenant under the <i>Victorian Conservation Trust Act 1972</i> within 24 months post approval of the referral.</p>
<b>% of impact offset off-site</b>	<p>20.5 hectare high quality area: 73.60%</p> <p>Six hectare moderate quality area: 26.59%</p> <p>Total: 100.19%</p>



## 5 OFFSET IMPLEMENTATION

### 5.1 Management Objectives and Strategy

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat, the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context.

The offset site will be protected in perpetuity via a Section 173 Agreement (Table 4) and a Trust for Nature Covenant. The Section 173 agreement will be an interim mechanism until the Trust for nature covenant is placed on title (within 24 months of the EPBC Act approval for the project). This OMP will be attached to the on-title agreement and require the landowner to manage the offset site in accordance with the requirements detailed herein. Security, management and monitoring responsibilities are summarised in Table 5. This OMP relates solely to the 26.5 hectares of GSM habitat and includes actions related to the ongoing monitoring and management of the ecological communities.

**Table 4.** Security and Management Responsibility

Offset Security and Management Responsibility	Parwan to Melton Pipeline
Who is liable/responsible for meeting offset requirements?	Western Water
Type of security mechanism	Interim: Section 173 agreement Future: Trust for Nature Covenant
Agreement or Planning Permit Number (ID)	TBC/2020 EPBC 2018/8260
Date 10-year offset management to commence	Upon approval of this OMP by DAWE
Date 10-year offset management expires	10 years following approval of this OMP by DAWE
Offset site management responsibility (i.e. Landowner, Authority Name)	██████████
Offset Monitoring Responsibility (i.e. Responsible Authority)	Landowner, Western Water, DAWE, TfN

### 5.2 Compliance with Offset Principles

The 'Environmental Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy' (DSEWPaC 2012a) outlines a set of principles that a proposed offset must meet in order to be assessed under the referral process. These principles are detailed in Section 7 of the Preliminary Documentation (Ecology and Heritage Partners 2020b), along with how the proposed offset site meets these requirements.

### 5.3 Offset Targets

The EPBC Act offsets policy (DSEWPaC 2012a) provides the details of the offsetting approach for Matters of NES; this includes an Offset Assessment Guide and offset calculator.

The Offset Assessment Guide offset calculator has been completed to determine the area of offset required to adequately compensate for the removal of GSM habitat at the development site. The Offset Assessment Guide offset calculator is provided in Appendix 2, and a justification for the scores given in Section 4.2.

## 5.4 Ongoing Land-use Commitments

The offset site will be managed to ensure the quality of remnant native vegetation and habitat for Matters of NES is improved 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.

From the commencement of the agreement, the Landowner agrees to undertake the following long-term (ongoing) management commitments in perpetuity for the 26.5 hectares of GSM habitat:

- Retain and manage all native vegetation as directed by this OMP;
- Exclude domestic stock, except as permitted by this OMP;
- Eliminate all woody weeds < 1 % cover;
- Ensure that weed cover does not increase beyond the current level;
- Monitor for any new and emerging weeds and eliminate to < 1% cover;
- Control rabbits; and,
- Undertake biomass management (grazing).

## 5.5 Management Actions

Implementation of the management actions (excluding third party monitoring) outlined within this OMP is the responsibility of the landowners (██████████), as detailed in the MoU prepared between Western Water and the landowner, however, direct management responsibility may be delegated to a designated site manager and/or managing ecologist with annual reports submitted to Council, Trust for Nature, DAWE and the Proponent (Western Water). Specific monitoring and reporting requirements are detailed in Section 8.

Management actions detailed in this OMP will commence from the date the offset site is secured on title (i.e. registration of the Section 173 Agreement). A breakdown of management actions required over the mandatory 10-year active management period is shown below (Table 10). Following the 10-year active management period, the landowner will continue to manage the offset site as specified in this plan, such that:

- By Year 10 of management, the weed cover must be reduced from levels upon inception of this plan (Section 5.5.4). Following Year 10 of this plan, the weeds within the site must be maintained at the improved state achieved at year 10, or ideally improved further;
- GSM habitat is improved through an improvement in site condition and at minimum, maintaining the current stocking rates, and;

Funding for undertaking security, management and monitoring actions prescribed in this OMP has been agreed between the landowner (██████████) and the Proponent (Western Water), in accordance with the signed Memorandum of Understanding (MoU) between both parties.

Any proposed uses or development of the offset site which conflict with the landowner's commitments are not permitted under this plan. The sensitivities of the offset site must be considered with all management actions and all contractors entering the offset site need to be made aware of its ecological values.

The management and monitoring actions detailed in this OMP have been development in accordance with the following legislations and/or policies:

- *Environment Protection and Biodiversity Conservation Act 1999*;
- *Flora and Fauna Guarantee Act 1988* (FFG Act);
- *Catchment and Land Protection Act 1994* (CaLP Act);
- Commonwealth's Threat abatement plan for competition and land degradation by rabbits (DAWE 2016);
- Commonwealth's Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (DAWE 2017);
- Significant impact guidelines for the critically endangered Golden Sun Moth (*Synemon plana*). Department of the Environment, Water, Heritage and the Arts (DEWHA 2009a); and,
- Approved Conservation Advice for *Synemon plana* (golden sun moth). Canberra: Department of the Environment. Department of Environment (DoE 2013).

Of note, weed invasion and inappropriate grazing regimes are two of the main demonstrated threats to GSM populations due to the potential to alter habitat quality.

This OMP addresses these demonstrated threats by including management actions aimed at reducing the likelihood of weed invasion, the preparation of an appropriate grazing regime sensitive to the values that exist in the offset site and surrounds.

### 5.5.1 Golden Sun Moth

This management plan has been formulated to address several priority actions outlined within the Conservation Advice for the species (DoE 2013):

- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible;
- Retain and protect natural grassland remnants within the known distribution of the species;
- Monitor known populations to determine the species' status;
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary;
- Identify populations of high conservation priority;
- Control invasions of weeds and pasture species, and consider the impact of herbicide use in habitat; where possible use methods that directly target weeds such as spot spraying and hand removal to minimise the adverse impact on GSM;

- Re-introducing an appropriate control method where Kangaroo Grass (*Themeda spp.*) threatens to out-compete wallaby grasses in previously grazed or mown sites;
- Manage the amount of grazing to minimise any direct adverse effects on GSM or its habitat. The management regime should include some focus on grazing and fire, as combining the two in the wrong way (e.g. heavy grazing soon after a fire) is particularly damaging to perennials; and
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions

#### **5.5.1.1 Existing Threats**

The main threats to the offset site 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 that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass. High threat weeds are defined as those introduced species (including non-indigenous natives) with the ability to outcompete and substantially reduce one or more indigenous life forms in the longer terms assuming on-going current site characteristics and disturbance regime.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 1.

Maintenance and protection of the offset site will be achieved by:

- Stock-proof fencing around the boundary of the offset site;
- Weed control through active management;
  - Eliminating all woody environmental weeds to < 1% cover;
  - Reducing cover of exotic grass to <30% cover;
  - Controlling all herbaceous weeds to reduce cover;
- Biomass control through high intensity pulse grazing of domestic stock (sheep only) with stock generally excluded from 1<sup>st</sup> October to 31<sup>st</sup> January;
- Controlling pest animals, particularly rabbits and foxes; and,
- Managing native species understorey diversity and recruitment.

#### **5.5.1.2 Threats specific to Golden Sun Moth**

Table 5 below outlines the key threats to Golden Sun Moth, as identified in the Significant Impact Guidelines for the species (DEWHA 2009) and addresses the management action that will be applied to the offset site to mitigate the threat. Further details regarding each mitigation measure are provided in Section 5.5.2 to Section 5.5.7, and a table of recommended management actions for each year in Section 5.6.

**Table 5.** Key threats to Golden Sun Moth

Key threat to GSM (DEWHA 2009)	Mitigation measure
Removal of vegetation	Habitat for Golden Sun Moth within the offset site will be protected by fencing (Section 5.5.2) and will be protected through a Section 173 Agreement and a Trust for Nature Covenant. Without this protection, the site may be used for cropping purposes or cleared for other reasons.
Inappropriate fire regimes	<p>Ensure biomass is maintained at low levels to reduce fuel loads across the site (Section 5.5.5). In addition, a number of wildfires have occurred in the past at the offset site, which have not had a significant impact on Golden Sun Moth due to their current population numbers remaining high.</p> <p>The biomass level monitoring will aid in the prevention of a damaging wildfire through fuel reduction management.</p>
Weed invasion	<p>One main weed, Toowoomba Canary-grass, poses a threat of invasion and reducing the native grasses present within the offset site. Toowoomba Canary-grass, along with other key weed species including the declared noxious weed Serrated Tussock <i>Nassella neesiana</i>, will be prioritised for control, with target levels set to be achieved within the 10-year management plan (Section 5.5.3). The control of Serrated Tussock will increase the area available for native grass recruitment and maintain the open tussock structure.</p> <p>Without the control of Toowoomba Canary-grass, it is likely the species would dominate the site, and reduce the habitat available to Golden Sun Moth. Therefore, efforts will be focused on reducing the cover of Toowoomba Canary-grass across the offset area, with a particular focus on the southern portion of the offset site where the six hectare area of moderate quality GSM habitat is located. This area contains a higher cover of Toowoomba Canary-grass, where reduction would see an opening in inter-tussock spaces and allow native grasses to regenerate. If it is found native grasses do not naturally regenerate, more intensive measures should be investigated, such as spreading local native grass seed into the area to boost recruitment and prevent further invasion from Toowoomba Canary-grass.</p>
Overstocking (causing loss of habitat plants, changes to soil and plant structure or increase nutrient load)	<p>Fencing will be maintained around the offset site, to ensure livestock grazing is managed within the offset site. When grazing is permitted, numbers will be monitored to ensure biomass levels and native grasses are not heavily impacted, and that the grazing does not impact upon plant structure within the offset site. If negative impacts from grazing are observed, livestock will be removed (Section 5.5.5).</p> <p>Without grazing control, the site may experience overgrazing where native species are damaged and inappropriate grazing occurs (i.e. late spring) affecting the seed distribution and regeneration of the native grassland, and ultimately reducing the amount of available Golden Sun Moth habitat.</p>
Changes to agricultural practices (e.g. ploughing, overgrazing)	<p>The offset site will be fenced and protected through a Section 173 Agreement and a Trust for Nature covenant. The landholder will commit to managing the site for conservation and will not engage in cropping within areas set aside for the offset. Grazing will be permitted with conditions, such as not during wet periods or when biomass levels are low.</p> <p>The protection of the offset site will lock the land up for conservation, which does not permit ploughing, and limits grazing. Without this protection, the site is at risk to either threat.</p>

Key threat to GSM (DEWHA 2009)	Mitigation measure
Rank growth (loss of inter-tussock spaces)	Loss of inter-tussock space may occur if Toowoomba Canary-grass and noxious weeds Serrated Tussock-grass is not controlled and biomass across the offset site is not managed. Management of Serrated Tussock is included in the management actions, with specific control methods and targets set for the species (5.5.3). General biomass will be managed through pulse grazing (Section 5.5.5).
Soil compaction	Soil compaction will be monitoring during and after grazing events. If soil compaction is evident, then grazing numbers will be reduced. This will be monitored in conjunction with the biomass control (Section 5.5.5)

## 5.5.2 Fencing and Access

An existing permanent stock-proof fence currently exists around the perimeter of the broader offset property. Under this agreement livestock (sheep) may be permitted into the offset site for control of herbaceous/grassy weeds and biomass management, with grazing to be generally excluded between 1<sup>st</sup> October and 31<sup>st</sup> January (see Section 5.5.5 for further details on stock exclusion periods).

Permanent fencing around the offset site is not recommended to avoid the need for establishing stock watering points which will displace native vegetation, to avoid the funnelling of stock through internal gates, and to minimise the disturbance to native vegetation along internal fence-lines. Temporary fencing will be erected around the offset site during the grazing exclusion period if livestock are grazed within other areas of the broader property and cannot be contained.

Posts marking the boundary of the offset site will be established to clearly identify the area for monitoring and management purposes.

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

### 5.5.2.1 Actions

- Maintain existing perimeter fencing and access control to the broader property;
  - If any damage occurs to the existing fencing, repair immediately.
- Erect temporary fencing around the offset site, if livestock are grazed within the broader property during the exclusion period, which generally occurs from 1<sup>st</sup> October to 31<sup>st</sup> January and cannot be contained to these areas (see Section 5.5.5 for further details on stock exclusion periods). Note that pulse grazing may be permitted from 1<sup>st</sup> February to 30<sup>th</sup> September provided conditions are dry enough, and ground disturbance (pugging) will not occur;
- Establish posts to mark the boundary of the offset site for management and monitoring purposes in accordance with advice from a qualified ecologist and land surveyor;
- Control access and any passive use of the offset site to minimise impacts on native vegetation;

- Provide access for farm owned management vehicles into the offset site, using the existing access gates. No additional vehicle access is to be established without the approval of the landowner, TfN and DAWE.

#### **5.5.2.2 Performance Indicators**

- Stock excluded from offset site during relevant exclusion period (generally October-November) (see Section 5.5.5 for further information on exclusion period);
- Access to the offset site is appropriately controlled;
- Existing and temporary fencing is maintained in good repair;
- Posts around the perimeter of the offset site are established for monitoring and management purposes; and,
- All fencing activities and repairs are effectively documented.

#### **5.5.2.3 Adaptive Management**

- The location of the temporary fencing may be slightly varied from year to year to minimise the disturbance to native vegetation along internal fence-lines.

### **5.5.3 Weed Control**

#### **5.5.3.1 Objectives**

The objective of weed control within the offset site is to improve the existing quality of Golden Sun Moth habitat by reducing/minimising future invasion by exotic flora. This will be achieved through a combination of controlled pulse grazing (to limit opportunities for weed establishment and seed set in exotic flora), and through on-ground management activities.

At the offset site, Golden Sun Moth were recorded in areas that typically had a 25-70% cover of native grasses, mainly Wallaby-grass *Rytidosperma* spp. and Spear-grass *Austrostipa* spp. (Ecology and Heritage Partners 2020a, Appendix 3). Golden Sun Moth are known to occur in areas with a moderate-high weed cover, including the noxious weed Chilean Needle-grass (although not present within the offset site), and measures should be taken to manage non-native habitat without reducing the quality of habitat for GSM.

#### **Woody weeds**

A limited number (<5%) of African Boxthorn *Lycium ferrocicimum* were recorded within the offset site. African Boxthorn must be eliminated from the offset area. Monitoring for new and emerging woody weeds will be conducted throughout the year for the term of the agreement, and any new and emerging woody weeds eliminated.

#### **Herbaceous weeds**

The aim of management is to reduce cover below current levels. Current herbaceous weed cover within the offset site is estimated to be around 30-75% throughout the offset area, with weed cover higher in the areas not recorded as NTGVVP. Weeds listed in Table 4 were found within offset site. These weeds will be controlled and monitored each year to ensure their cover is reduced, with a VQA weed score of 6/15 achieved by the end

of the 10 year management period. Weeds must be treated using methods listed in Table 6 before the plant has flowered and set seed. Indigenous plants must not be impacted during treatment of weeds.

Annual weeds within the offset site are not considered to be a significant threat and will be managed using grazing to reduce their prominence.

Spot spraying with appropriate herbicide is the main method for reducing weed cover. Spot spraying will be undertaken regularly, particularly in spring and early summer, with a focus on killing weed plants prior to seed set. 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). Biomass control is also considered to be an effective method for controlling and reducing weed levels and will include controlled livestock grazing (sheep).

Weed control methodology for eradicating graminoid and herbaceous weeds will comprise manual removal and/or targeted spot spraying with an appropriate herbicide. Care must be taken when spraying herbicide to ensure that the poison does not affect native vegetation in the local application area. Weed species must be treated before seed is set, which may involve localised slashing if spot-spraying proves ineffective. A dye will be used in the spray to mark where spraying has been utilised.

The composition and distribution of vegetative cover across the offset site is likely to change over time in response to seasonal conditions or pulse grazing. Therefore, weed cover and species will be continually monitored and management activities adapted to ensure the desired outcomes outlined in this OMP are achieved.

### New and emerging herbaceous weeds

Monitoring for new and emerging herbaceous weeds will be conducted throughout the year for the term of the agreement, and any new and emerging weeds eliminated (<1% cover) (Table 6).

Any other significant environmental weeds identified within the broader property during monitoring will also be controlled. The landowners may consult with a qualified ecologist regarding appropriate control techniques for any new or emerging weeds identified within the offset area.

**Table 6.** Herbaceous weeds to be controlled – method and timing

Common name	Scientific name	% total cover at inception	Method	Timing
Sheep Sorrel	<i>Acetosella vulgaris</i>	1%	Pulse-grazing	Generally, early Spring to avoid GSM flying season
Wild Oat	<i>Avena fatua</i>	3%	Pulse-grazing	Generally, early Spring to avoid GSM flying season
Barley-grass	<i>Hordeum</i> spp.	3%	Pulse-grazing	Generally, early Spring to avoid GSM flying season



Common name	Scientific name	% total cover at inception	Method	Timing
Cat's-ear	<i>Hypochaeris radicata</i>	3%	Pulse-grazing and targeted spot spraying with appropriate herbicide.	Generally, early Spring to avoid GSM flying season. Spot-Spray: Spring and early summer
Serrated Tussock	<i>Nassella trichotoma</i>	<1%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Rat-tail Fescue	<i>Vulpia</i> spp.	2%	Hand chip, or targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Toowoomba Canary-grass	<i>Phalaris aquatica</i>	25-40%	Targeted spot spraying with appropriate herbicide. Pulse-grazing.	Spot-Spray: Spring and early summer; Graze: early Spring to avoid GSM flying season
Spear Thistle	<i>Cirsium vulgare</i>	<1%	Hand chip, or targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer

## Spot Spraying

The application of herbicides is an effective and efficient control technique for a range of woody, herbaceous and grass weeds. The correct use and application of herbicides can provide targeted control of a range of species. However, all herbicides must be used in accordance with the manufacturer's specifications and occupational health and safety policies.

Application methods for herbicides include: spot spraying with a knapsack, dabbing of weeds in sensitive areas with a foam-tipped application device, rig spraying with a pump for larger areas, dabbing of cut stumps and injection of woody weeds.

Timing of the interval of spot spraying is dependent upon many factors such as plant age and growth seasons, plant stress levels and climatic factors. All these factors need to be considered when develop methodologies for the application of herbicides to ensure successful outcomes. Surrounding native plants' susceptibility to herbicides and ongoing uses of the treated areas must also be considered when choosing the right herbicide to be used in a weed control program, as some herbicides are residual and may persist within the soil for varying durations.

### 5.5.3.2 Actions

- Periodic spot spraying of weeds with appropriate herbicide will be undertaken, particularly through spring and early summer as detailed in Table 6;
- 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 DAWE;
- During weed control, natural regeneration of indigenous flora will be protected from off-target damage;

- Undertake pulse grazing within the offset site to reduce weed cover as per Section 5.5.5; and
- Annual 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.

### 5.5.3.3 *Performance Indicators*

- Eliminate all high threat and woody weeds (<1% cover) within Habitat Zone 1;
- Where herbicide application is employed, waterway sensitive products and non-residual herbicides are to be employed;
- Achieve a VQA weed score of at least 6/15 by the end of the 10 year management period;
- Achieve an understory score of at least 15/25 by the end of the 10 year management period;
- No off-target damage to indigenous plants; and
- No new or high threat weeds establishing within the offset site.

### 5.5.3.4 *Adaptive Management*

- Respond to the annual monitoring report and associated recommendations;
- If objectives and performance indicators are not being met:
  - Review grazing regime;
  - Increase frequency of control activities; and
  - Raise any significant issues with DAWE as soon as they arise.

## 5.5.4 **Pest Animals**

### 5.5.4.1 *Objectives*

The objective of pest animal management is to control pest animals (e.g. rabbits, foxes) within the offset site, as required, to minimise negative impacts to the Plains Grassland and NTGVVP communities, which provides habitat for Golden Sun Moth. The *Catchment and Land Protection Act 1994* lists rabbits and foxes as established pest animals and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land.

Rabbits will be monitored and controlled throughout the year. Small warrens were recorded within and surrounding the offset site; the size of the population was considered manageable. An integrated approach in accordance with BushBroker Information Sheet 7 - Standards of Management – Rabbits, will be followed which will involve fumigation, hand collapsing of burrows and baiting. Any rabbit carcasses found within the offset site will be removed to prevent poisoning of native predators. These actions are in accordance with the Commonwealth's *Threat abatement plan for competition and land degradation by rabbits* (DAWE 2016).

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 collapsing.

Foxes are a threat to native fauna and must be controlled if identified within the offset site. If identified, fox dens will be destroyed through fumigation and hand collapse.

To reduce the likelihood of pest animals inhabiting the offset site on a regular basis, any artificial piles of logs and rocks that may be used as harbour by pest animals will be removed or dispersed.

Both rabbits and foxes will be controlled as detailed in Table 7.

**Table 7.** Pest animals to be controlled – species, method and timing

Common name	Method	Timing
Rabbits	Baiting. When baiting collect and dispose of carcasses to prevent poisoning of native predators.	Ongoing
Rabbits & Foxes	Fumigation and collapse of rabbit burrows and fox dens if identified. Remove or disperse surface harbour.	Ongoing
New & Emerging pest animals	Monitor and control	Ongoing

#### 5.5.4.2 *Actions*

- Control and seek to locally eliminate pest animals using appropriate control techniques, including poison baits, warren fumigation and collapsing, or similar methods, without soil disturbance; and
- Fumigate rabbit warrens according to best practice management techniques. Fumigation works will be conducted by the landowner or a suitably qualified operator where rabbit activity is identified.

#### 5.5.4.3 *Performance Indicators*

- Any rabbit warrens or fox dens are controlled immediately following detection;
- Reduction in the abundance of pest animals, and no detectable impacts to the native grassland community; and
- All monitoring and management activities are effectively documented.

#### 5.5.4.4 *Adaptive Management*

- If pest animal management fails to achieve a reduction, or effectively control rabbit or fox numbers, or if impacts to GSM habitat are attributable to an increase in pest animals activities, a review of the current procedures and management measures will be undertaken;
- Review performance of pest animal contractor;
- Increase active monitoring of pest animal activity;
- Incorporate additional control measures (i.e. spotlighting and shooting); and
- Improve existing fencing of broader offset property to exclude pest fauna.

## 5.5.5 Biomass Control

### 5.5.5.1 Objectives

The objective of biomass control within the offset site is to promote and maintain floristic diversity, and inter-tussock spaces for germination and recruitment of native flora associated with the grassland communities. This will also have positive outcomes for managing Golden Sun Moth habitat. In addition, these actions will improve habitat quality for existing flora present within the offset site and assist with minimising the growth of weeds.

Biomass management is essential to enhance the ecological values throughout the offset site, including the maintenance and improvement of GSM habitat. Biomass management is also required to maintain inter-tussock spaces and prevent excessive competition to grassland forbs. Biomass control will aim to maintain approximately 20% to 40% cover of bare ground or inter-tussock space to allow sufficient space for recruitment of herbs and grasses. If the GSM offset area is found to be less than 20% bare ground then biomass reduction must be implemented at the earliest possible opportunity (with consideration of seasonality in order to minimise risk to ecological values, life and assets).

The current biomass reduction method applied throughout the offset site consists of low-intensity rotational grazing. Sheep are removed during the critical flowering/reproductive period for native species (October to January) then sheep are returned to graze between March and September. The current grazing regime and historical land use is not considered to have an adverse impact on the GSM habitat and given that native vegetation has persisted across the property, it is considered an appropriate method for managing biomass.

### Pulse Grazing

Livestock grazing is the historical land use at the property and offset site (AECOM 2015). A detailed study has been undertaken on the ecological impacts and benefits various grazing regimes on grasslands within the property, in addition to similar properties (Mavromihalis *et al.* 2013). It was concluded that a period of grazing exclusion may be beneficial for enhancing conservation values of grasslands. Further, exclusion of grazing during spring (September–November) is most beneficial, however, due to seasonal variation in vegetation composition, fixed grazing strategies were considered inappropriate, as they do not allow for temporal fluctuations. For example, in occasional years, excluding grazing during summer, rather than spring, may be beneficial in controlling annual grasses following particularly heavy spring rains; although, grazing during spring every year may lead to a decline in species richness. As such, the grazing regime within this OMP is to generally exclude stock during spring, however, seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition. However, grazing during spring may not occur during more than two consecutive years; this aims to achieve a balance between having sufficient flexibility to respond to seasonal variation in plant growth and mitigating risks associated with spring grazing over extended periods.

Grazing will be undertaken in a controlled manner following the grazing management plan detailed in Table 8, to ensure that biomass accumulation control within the offset site is consistent with the standards for management of ecological grazing provided by DELWP (DSE 2009). 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 prohibited within the offset site at all times.

Grazing will occur over a short duration and exceed the standard stocking rate to prevent selective grazing within the offset site. The maximum length of continuous grazing is four weeks with at least two weeks rest

between cycles. At least three pulse grazing cycles will occur within the grazing period, one of which will occur immediately prior to the exclusion period (weather permitting).

**Table 8.** Grazing Management Plan within the offset site.

Grazing Requirement	Targets
Period where grazing by domestic stock is not permitted	October-November annually in perpetuity, in addition to times outside this period when standing water is present, or soil is waterlogged.  However, if seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition.
Pulse grazing cycles required	3 (minimum)
Minimum rest from grazing between pulse grazing events	2 weeks
Maximum continuous pulse grazing event	4 weeks
Biomass management thresholds	Minimum height of 10 cm; total vegetation cover of no greater than 70%
Target inter-tussock space	Minimum of 30% of total offset site cover.

Stock must be removed should total vegetation cover fall to or below 70%. Stock pens and heavy vehicle traffic must be confined to the areas outside that covered within this OMP. Following any high rainfall events, stock will be removed from the offset site immediately.

#### 5.5.5.2 Actions

- Biomass will be managed by pulse grazing with sheep for a maximum period of four weeks followed by a minimum two-week period of rest;
- In perpetuity, grazing will be excluded annually between October-November; however, on an occasional basis, seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition (Mavromihalis *et al.* 2013). Any grazing between October-November must be documented within reports to DAWE (Section 5.5.6). Grazing must not occur between October-November for more than two consecutive years; and,
- Stock must be excluded at any time when standing water is present, or soil is waterlogged, to mitigate pugging of the soil surface.

#### 5.5.5.3 Performance Indicators

- Maintain or improve species richness and improve species diversity;
- Improve species recruitment through improvement and maintenance of suitable vegetation structure throughout the site; biomass remains moderate (i.e. no increase on current levels), and suitable inter-tussock spaces for natural recruitment maintained/provided (through transect monitoring and photo-points – see below);

- Achieve a VQA understory score of at least 15/25 by the end of the 10 year management period;
- Achieve a VQA recruitment score of at least 6/10 by the end of the 10 year management period;
- Stock grazing is excluded between October-November, except where necessary for further biomass reduction during dry periods. Grazing does not occur between October-November in more than two consecutive years;
- Establishment of 14 x 1m<sup>2</sup> quadrats throughout the offset site to monitor density of biomass;
- Weed biomass does not increase in areas of remnant vegetation;
- Minimum of 20% of total offset site cover will comprise inter-tussock space; and,
- All grazing events effectively documented.

#### **5.5.5.4 Adaptive Management**

Highly seasonal conditions are not uncommon across western Victoria and can result in variable conditions from year to year. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the Landowner.

#### **5.5.6 Monitoring and Reporting**

This Offset Management Plan requires the approval holder to submit a report annually to DAWE for each year of the 10 Years of this Offset Management Plan and continue monitoring every year following for the life of the project approval under the EPBC Act. The reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports.

The Landowner will establish seven permanent photo-points in the GSM habitat offset site. These points will be marked via GPS and shown on a Figure. Photographs taken from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October each year and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same direction, trajectory and camera settings as is practicable.

Photographs and Annual Reports are to be submitted at least 2 months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date.

The Annual Report addresses progress against the commitments set out in this agreement. Annual Reports must provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for each zone.

The template for a landowner monitoring and reporting form is shown in Table 9. Information to be provided in the reporting form includes:

- A copy of the Management Action Table from the OMP with information on which actions have been completed for year/s of this reporting period;
- A description of the specific monitoring results from surveys undertaken (i.e. GSM habitat condition assessment);
- Success of weed and pest animal control work;

- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.); and,
- Provide photographs showing evidence of works.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the actions that will be action/s will be undertaken to implement the requirement.

All records/evidence of management actions must be maintained and be submitted to TfN and/or DAWE upon request, and any proposed changes to management must be submitted to TfN and/or DAWE prior to the changes being undertaken.

**Table 9.** Template for a Landowner Monitoring and Reporting Form

Landowner of offset site	
Location and address of offset site	
Offset site number (if applicable)	
Offset plan reference number (if applicable)	
Responsible Authority	
Report #	
Signature	
Date	
Details of works undertaken	

### 5.5.7 Offset Management Plan Review

The protection and management of the nominated offset area is for perpetuity. The OMP will be reviewed by a suitably qualified Ecologist, in consultation with the Landowner, five years from the date of approval. The focus of the review will be to determine its effectiveness in managing the GSM habitat.

The 5-year review of the OMP will be submitted to Trust for Nature and DAWE for approval prior to any recommendations regarding management of the offset site being implemented.

## **5.6 Management Actions Table**

Management actions proposed to compensate for the loss of native vegetation and habitat under Commonwealth legislation at the offset site are presented in Table 10. The actions constitute the minimum management requirements for the offset site over the mandatory 10-year management period and are appropriate for the management of the GSM population.



**Table 10.** Management Actions Table

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Fencing</b>				
1-10	26.5 ha of GSM habitat	Maintain fencing in good condition around entire boundary of all sites where fencing exists or is required Refer Section 5.5.2	Ongoing	Maintain fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing
1-10	26.5 ha of GSM habitat	Erect temporary fencing around offset site during grazing exclusion period (if stock present during this period within the property cannot be confined to certain areas) Refer Section 5.5.2	October -November	Exclude stock from the offset site during exclusion period to protect GSM habitat.
1-10	26.5 ha of GSM habitat	If a threat arises erect an additional fence immediately around the entire boundary of the offset site Refer Section 5.5.2	Immediately on identification of threat	Erect fencing to DELWP fencing standards in BushBroker Information Sheet 12 – Standards for Management – Fencing
1	26.5 ha of GSM habitat	Establish posts to mark the boundary of the offset site in accordance with advice from a qualified ecologist and land surveyor Refer Section 5.5.1.	Immediately on approval of Year 1 of management works	Facilitate management and monitoring of the offset site. Delineate location of temporary exclusion fence.

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Woody Weeds</b>				
1-10	26.5 ha of GSM habitat	Eliminate all new and emerging woody weeds Refer Section 5.5.3	Ongoing	Eliminate woody weeds (<1% cover)
<b>Herbaceous Weeds</b>				
1-10	26.5 ha of GSM habitat	Control all herbaceous weeds. Refer to Table 4 for list of herbaceous weeds, their control method and timing of actions Refer Section 5.5.3	Refer to Table 6	Eliminate all high threat weeds (<1% cover) within offset site. Minimise off-target damage (avoid all native plants)
1-10	26.5 ha of GSM habitat	Eliminate all new & emerging herbaceous weeds Refer Section 5.5.3	Ongoing.	<1% cover of all new and emerging herbaceous weeds at the end of Year 10
<b>Pest Animals</b>				
1-10	26.5 ha of GSM habitat	Control rabbits and foxes. Refer to Table 5 for a list of control methods and timing of actions Refer Section 5.5.4	Refer to Table 7	No surface disturbance within the offset site; No active rabbit warrens to be present; No active fox dens to be present; No rubbish/artificial harbour present; Minimal artificial piles of logs and rocks;
1-10	26.5 ha of GSM habitat	Monitor and control rabbits and foxes Refer Section 5.5.4	Ongoing	Reduction in the abundance of pest animals, and no detectable impacts to the native grassland
1-10	26.5 ha of GSM habitat	Monitor and control all new and emerging pest animals Refer Section 5.5.4	Ongoing	Control numbers of any new & emerging pest animals

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Biomass Management</b>				
1-10	26.5 ha of GSM habitat	Pulse grazing Refer Section 5.5.5	The maximum length of continuous grazing is four weeks with at least two weeks rest between cycles. Stock generally excluded during October -November Stock removed immediately following any high rainfall events.	Stock must be removed should total vegetation cover fall to or below 70% Sufficient bare ground (approximately 20% to 40% cover) maintained in order to maintain space for recruitment of herbs and grasses. No loss of native plant diversity as a result of grazing regimes. Reduction in weed cover.
<b>Detailed native vegetation and GSM monitoring</b>				
Years 1-4, 6, 8 and 10	26.5 ha of GSM habitat	Monitoring Refer Section 8.2 and 8.3	Spring/Summer	Allow for ongoing auditing of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP.

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Annual reporting</b>				
1-10	26.5 ha of GSM habitat	Prepare and submit an annual report and photo monitoring to TfN and DAWE. Refer Section 5.5.7 and 8.1	Submit at least 2 months prior to on-title agreement anniversary date	<p>Annual report is signed, dated and submitted by the Landowner at least 2 months prior to the anniversary date of on-title agreement registration</p> <p>Report provides enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the commitments for the offset site.</p> <p>Allow for ongoing auditing of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports.</p> <p>Obligations of the Landowner have been met and the obligations form is signed, dated and submitted with the annual report</p>
5	26.5 ha of GSM habitat	Review effectiveness of OMP. Refer Section 5.5.8 and 8.1	End of Year 5.	If existing OMP is not leading to the ongoing maintenance and improvement of the GSM population, a review will be undertaken, and a new management plan prepared for the remaining 5 years of management.

## 6 CONTINGENCY RESPONSE AND CORRECTIVE ACTIONS

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The landholder will use an Adaptive Management Approach to allow the flexibility to respond appropriately and effectively to the uncertainties involved in ecological processes. This will ensure that management objectives are being met while allowing for altered circumstances to be included in the management of the site.

If after Year 5 of management, the actions detailed in this OMP are not leading to the ongoing maintenance and improvement of the GSM habitat, the approval holder will instigate a review of the OMP, and a new management plan will be prepared for the remaining five years of management.

Highly seasonal conditions are not uncommon across western Victoria and can result in variable conditions from year to year. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the Landowner.

Any proposed changes to the management contrary to that specified within this plan must be approved by DAWE, prior to implementation. Any proposed uses or development of the site which conflict with the landowners' commitments or maintenance/improvement of the GSM habitat are not permitted under this plan.

Alternative management measures, as part of an adaptive management approach, may be implemented if:

- The management outcomes outlined within Section 5 are unable to be met based on methods outlined within this plan;
- A new management technique has been identified which is considered to be more effective in meeting the objectives of this OMP, and relevant recovery plans, threat abatement plans, conservation advices and does not increase risk of impacts to GSM habitat. A review of the benefits and risks of the proposed management technique must be prepared and submitted to DAWE; and,
- The proposed management technique has been approved by DAWE.

Where management outcomes outlined within Section 5 have not been met during any monitoring event (Section 8) corrective actions must be identified upon submission of the monitoring report.

Where an adaptive management approach has been implemented, the success, or failure, of the approach must be outlined within subsequent monitoring reports. The monitoring report must make recommendations on whether the approach should be continued, or whether subsequent alternative management is recommended.

### 6.1 Managing Uncertainty

An assessment of potential risks associate with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.

## 7 EMERGENCY CONTACTS AND PROCEDURES

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Should any environmental emergency occur on-site that poses a risk to the objectives of this OMP, the relevant contacts (Table 11) must be notified as soon as possible, and no later than 12 hours following the event. At a minimum, DAWE, and the landholder must be notified; CFA and Victoria Police should be notified if assistance is required from these emergency services (e.g. control of wildfire). Emergency services must be advised of the on-site protections to avoid inadvertent damage to ecological values (e.g. creation of graded earthen fire breaks within the site, which unless absolutely necessary, must be avoided).

**Table 11. Emergency contacts**

Contact	Role	Telephone
Country Fire Authority (CFA)	Bushfire emergency	000
Victoria Police	Various (e.g. unauthorised access)	000
DAWE	Offset Monitoring Responsibility	1800 803 772
TfN	Offset Monitoring Responsibility	03 8631 5888
Landholder	██████████	Undisclosed

## 8 MONITORING AND REPORTING

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Ongoing monitoring is required to determine whether the GSM habitat quality persists and remains viable over time and to ensure that management actions improve habitat.

Site monitoring must include:

- General habitat monitoring (i.e. as described in Section 5.5.7) by the landholder (or an appointed entity on behalf of the landowner) annually; and,
- Detailed monitoring to be conducted by a qualified ecologist for an initial four-year period, and then in Years 6, 8 and 10 of this management plan. This will include a detailed habitat hectares assessment in each year of the detailed monitoring.

Further details on the monitoring actions is outlined below.

### 8.1 Annual Monitoring of Habitat and Effectiveness of Management actions

The landowner undertakes to establish seven permanent photo-points across the offset site. These points will be marked via GPS and shown on a Figure. Photographs taken from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October annually and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same direction, trajectory and camera settings as is practicable.

Annual monitoring must be undertaken by the landowner (or an appointed entity on behalf of the landowner), and must include an assessment of:

- Photographs taken at established photo-points;
- The extent, severity, trend and presence of current weed species and any new and emerging weed species.
- The extent, severity, trend and presence of pest animal activity;
- Biomass levels, visually assessed across the site;
- Evidence of unpermitted human/stock access; and,
- Any new threats.

The annual monitoring must be undertaken for each year of the 10 Years of this Offset Management Plan.

### 8.2 Detailed Vegetation Monitoring (Years 1-4, 6, 8 and 10)

Detailed vegetation monitoring will be instigated by the approval holder and conducted by a qualified ecologist for an initial four-year period, and then in Years six, eight and 10 of this management plan, and will document the following components:

- Overall assessment of the quality and quantity of vegetation and composition of species (i.e. Habitat Hectare assessment\*);
- Biomass levels, assessed through 14 x 1 m<sup>2</sup> sampling plots equidistant along the offset site; and,
- The extent, severity, trend and presence of current weed species and any new and emerging weed species.

\* Department of Sustainability and Environment 2004. *Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3.* Victorian Department of Sustainability and Environment, Melbourne Victoria

### 8.3 Golden Sun Moth population monitoring (Years 1-4, 6, 8 and 10)

In addition to native vegetation monitoring outlined in Section 8.2, appropriate monitoring of GSM will be undertaken for an initial four year period, and then in years 6, 8 and 10 of this management plan, or thereafter upon written agreement with the Commonwealth Minister for Environment. The GSM monitoring detailed below is to be instigated by the Approval holder, and undertaken by trained observers (i.e. suitably qualified ecologist). If the results indicate a decline in the population size or habitat degradation becomes evident, actions within this management plan will be re-evaluated. If any changes to management are required in the landowners' view, a revised management strategy must be approved by DAWE prior to implementation.

Specific survey procedures will follow those approved monitoring guidelines for GSM prepared by DEWHA\*. The following measures will be undertaken as part of population and habitat monitoring for GSM at the offset site:

- Surveys are to be conducted by suitably trained observers;
- Surveys will concentrate in areas identified as supporting indigenous grassland, namely those supporting wallaby-grass *Rytidosperma* spp. which is a known food source for Golden Sun Moth.
- Surveys will be conducted over a minimum of four separate days during the known flight season (i.e. November to early January).
- Surveys will be undertaken at a time which is considered suitable for detecting the species (i.e. when adult males are flying), and when Golden Sun Moth was observed flying at nearby locations. (The male of this species generally flies between 11am and 3pm on calm, warm (over 20°C), sunny days).

\* Department of the Environment, Water, Heritage and the Arts 2009. *Significant impact guidelines for the critically endangered golden sn moth (*Synemon plana*).* EPBC Act policy statement 3.12.

### 8.4 Reporting

To demonstrate that the management measures are effective in meeting the environmental outcomes, this OMP requires the approval holder to submit a report annually DAWE for each year of the 10 Years of this Offset Management Plan.

Photographs and reports are to be submitted at least two months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date.

The report must address progress against the commitments set out in this agreement and the conditions of the EPBC Act referral (EPBC 2018/8260). Reports should provide enough detail in the form of written



comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for the offset site.

Information to be provided in the progress report includes:

- Detailing actions completed during the reporting period;
- Results of vegetation condition assessment (Habitat Hectare Assessment);
- Results of GSM population monitoring;
- A description of the specific monitoring results from ecological surveys undertaken;
- Results of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.);
- Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation;
- Photographs showing evidence of works; and,
- Assessment on how the site is on track to meet, or meets the conditions under the EPBC referral (EPBC 2018/8260), including an assessment against the EPBC offset gain calculator inputs

If any agreed management actions or commitments (excluding third party monitoring) are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the substituted actions that will be undertaken in order to compensate and ensure the required outcomes are achieved.

All records/evidence of management actions must be maintained and be submitted to DAWE upon request.

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## FIGURES

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Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

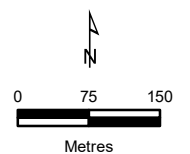
**Figure 1**  
**GSM Offset Site**  
 EPBC 2018/8260,  
 Mount Gow,  
 Shelford, Victoria

**Legend**

- Study Area
- ◆ African Box-thorn
- ◆ Rabbit warren
- Golden Sun Moth records (9/12/2019)
- Golden Sun Moth records (16/12/2019)
- Golden Sun Moth habitat

**Ecological Vegetation Classes**

- Plains Grassland
- NTGVVP
- Proposed high quality GSM offset site (20.5 ha)
- Proposed moderate quality GSM offset site (6 ha)



## Appendix 1. Risk Assessment and Management Definitions

### Risk framework

		• Consequence				
		• Minor	Moderate	• High	• Major	• Critical
• Likelihood	• Highly Likely	Medium	• High	• High	Severe	Severe
	Likely	• Low	Medium	• High	• High	• Severe
	Possible	• Low	Medium	Medium	• High	• Severe
	• Unlikely	• Low	• Low	Medium	• High	• High
	Rare	• Low	• Low	• Low	Medium	• High



## Likelihood and consequence

<b>Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)</b>	
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances
<b>Qualitative measure of consequences (what will be the consequence/result if the issue does occur)</b>	
Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.

## **Appendix 2. EPBC OFFSET CALCULATOR**



# 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	Golden Sun Moth
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	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	Golden Sun Moth habitat	Area	5.257	Hectares	Field mapping
			Quality	5	Scale 0-10	
			Total quantum of impact	2.63	Adjusted hectares	
<i>Threatened species</i>						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																												
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source												
<i>Ecological Communities</i>																												
Area of community	No				Risk-related time horizon (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 habitat</i>																												
Area of habitat	Yes	2.63	Adjusted hectares	26.5 ha total (20.5 high quality and 6 moderate quality)	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	20.5	Risk of loss (%) without offset	5%	Risk of loss (%) with offset	1%	Raw gain	0.82	Confidence in result (%)	90%	Adjusted gain	0.74	Net present value (adjusted hectares)	0.20	% of impact offset	73.60%	Minimum (90%) direct offset requirement met?	No	Cost (\$ total)		Information source	
					Future area without offset (adjusted hectares)	19.5	Future area with offset (adjusted hectares)	20.3																				
					Time until ecological benefit	10	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	4	Future quality with offset (scale of 0-10)	6	Raw gain	2.00	Confidence in result (%)	90%	Adjusted gain	1.80	Net present value (adjusted hectares)	0.93								
<i>Threatened species</i>																												
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source												
Number of features e.g. Nest hollows, habitat trees	No																											
Condition of habitat Change in habitat condition, but no change in extent	No																											
Birth rate e.g. Change in nest success	No																											
Mortality rate e.g. Change in number of road kills per year	No																											
Number of individuals e.g. Individual plants/animals	No																											

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	2.6285	1.93	73.60%	No	\$0.00	#DIV/0!	#DIV/0!
Area of community	0				\$0.00		\$0.00
					\$0.00	#DIV/0!	#DIV/0!

# 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	Golden Sun Moth
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	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	Golden Sun Moth habitat	Area	5.257	Hectares	Field mapping
			Quality	5	Scale 0-10	
			Total quantum of impact	2.63	Adjusted hectares	
<i>Threatened species</i>						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source
<i>Ecological Communities</i>																				
Area of community	No				Risk-related time horizon (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 habitat</i>																				
Area of habitat	Yes	2.63	Adjusted hectares	26.5 ha total (20.5 high quality and 6 moderate quality)	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	6	Risk of loss (%) without offset	5%	Risk of loss (%) with offset	1%								
									Future area without offset (adjusted hectares)	5.7	Future area with offset (adjusted hectares)	5.9	0.24	90%	0.22	0.06				
									Time until ecological benefit	10	Start quality (scale of 0-10)	4	Future quality without offset (scale of 0-10)	3	Future quality with offset (scale of 0-10)	6	3.00	75%	2.25	1.17
<i>Threatened species</i>																				
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g. Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	2.6285	0.70	26.59%	No	\$0.00	#DIV/0!	#DIV/0!
Area of community	0				\$0.00		\$0.00
					<b>\$0.00</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>

## **Appendix 3. Offset Site Assessment Report**

## Offset Site Assessment: Mount Gow, Shelford, Victoria

**Date:** 12 May 2020

**Author:** Claire Ranyard (Consultant Botanist)

**Ref:** 10223

### 1 Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by CH2M Beca on behalf of Western Water to undertake a site assessment at Mount Gow, Shelford, Victoria. The purpose of the assessment was to confirm the ecological values present within the study area. An initial assessment of the offset site was undertaken by AECOM (2015), and a subsequent assessment was undertaken by Ecology and Heritage Partners in early 2020 to confirm the current extent and condition of the vegetation and ecological values within the offset site, with the results presented in the current report.

The initial assessment undertaken by AECOM (2015) identified two matters listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) present within the property, Golden Sun Moth *Synemon plana* and *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP).

The current report details the extent of NTGVVP through recent mapping and provides an assessment of the quality of NTGVVP present within the study area, including the native species composition, weed cover, and presence of pest animals. Golden Sun Moth surveys were undertaken in December 2019, with the results presented below. The results of the field assessment will be used to calculate the area of NTGVVP and Golden Sun Moth habitat to be protected to meet the offset requirements of Western Water for a current development project which involves the removal of NTGVVP and Golden Sun Moth habitat.

### 2 Study Area

The third-party offset site (offset site) is located at a private property in Mount Gow, Shelford, Victoria, approximately 90 kilometres south-west of the impact site in Parwan, Victoria (Figure 1). The offset site will protect 3.45 hectares of NTGVVP and 26.5 hectares of Golden Sun Moth habitat and is part of a larger property intersected by Warrambine Creek and abutting 35 kilometres of Mount Gow Road. All areas identified as NTGVVP and Golden Sun Moth habitat within the offset site are proposed to be managed for vegetation offset and conservation purposes.

According to the Victorian Department of Environment, Land, Water and Planning (DELWP) NatureKit Map (DELWP 2020a), the study area occurs within the Victorian Volcanic Plain Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Golden Plains Shire municipality.

### 3 Field Assessment

Where native vegetation was identified a habitat hectare assessment was undertaken following methodology described in the Vegetation Quality Assessment Manual (DSE 2004).

### 3.1 Natural Temperate Grassland of the Victorian Volcanic Plain

A field assessment of the study area was undertaken by a qualified ecologist on 24 January 2020 and 24 February 2020. The inspection sought primarily to identify the extent and condition of the NTGVVP ecological community, and to identify the presence of any key threats to the community, such as weeds and pest animals. The entire study area was walked, and where potential patches of NTGVVP were identified, the patch was assessed against the diagnostic and condition thresholds for the community (DSEWPC 2011) to determine if it was eligible for listing.

### 3.2 Golden Sun Moth Surveys

Targeted surveys for GSM were undertaken over two separate days during the known flight season, on 9 and 16 of December 2019 by zoologists experienced in the detection and identification of the species. The presence of GSM flying at known reference sites (i.e. Merrimu, Craigieburn Grasslands) was used to confirm suitable days for surveys. Surveys were undertaken at a time which is considered suitable for detecting the species (i.e. when adult males are flying), between 10:00 am and 3:00 pm on calm, warm (over 20°C), sunny days with still conditions. All surveys were undertaken on foot.

Surveys concentrated on areas identified as supporting suitable habitat, which included areas dominated by Spear-grass *Austrostipa* spp. and Wallaby-grass *Rytidosperma* spp., a known food source for GSM.

AECOM (2015) recorded a low number of Golden Sun Moth within the offset area on 15 December 2014, and the purpose of the current surveys was to confirm that Golden Sun Moth were still present within the proposed offset area. Survey procedures were in accordance with the *Significant Impact Guidelines for the Critically Endangered Golden Sun Moth* (DEWHA 2009), with the following tasks undertaken:

- A habitat assessment was completed detailing information on habitat quality, presence of weeds and floristic diversity;
- Surveys were conducted by ecologists experienced in the detection and identification of Golden Sun Moth;
- The study area was surveyed on two separate occasions, with at least one week between surveys;
- Surveys took place during the species' flight season (generally described as late October to early January). Moths were confirmed flying at known, nearby reference sites (Broadmeadows) prior to undertaking each survey;
- Surveys were undertaken during weather conditions suitable for detecting the species (i.e. between 10am and 3pm on warm (over 20°C by 10am) days with minimal cloud cover and still conditions); and
- Surveys were conducted by qualified zoologists walking or driving (where access was permitted) 10 to 50-metre-wide parallel transects across all areas of suitable habitat.

### 3.3 EPBC Act

Offsets under the EPBC are calculated in accordance with the Commonwealth environmental offset policy (DSEWPaC 2012a) and the EPBC Act offset calculator (DSEWPaC 2012b).

Refer to Appendix 2 of the Preliminary Documentation (Ecology and Heritage Partners 2020) for the gain calculations under the EPBC Act for NTGVVP and Golden Sun Moth habitat based on the impact site and proposed offsets site conditions.

### 3.4 Assessment Qualifications and Limitations

It is important to acknowledge that the number of documented records for the target species within and surrounding the study area is not necessarily a reflection of population size or density. Furthermore, a documented record may indicate a species' presence in an area at a given point in time, but it generally does not offer information about how a species is making use of an area (e.g. foraging, dispersing, reintroducing, etc.). This can be important information when determining the potential impact of a proposed action on a threatened species.

Targeted surveys were undertaken during optimal seasons for the identification of the targeted fauna species. Based on available information the Golden Sun Moth flight season commenced at a majority of sites in early-mid November 2019, with moths expected to fly through to early-January 2020. It is considered that the survey effort, timing and results presented meet the objectives of the surveys and provide sufficient information to support the approvals processes. Known reference sites were checked prior to the commencement of surveys to confirm that the species was flying on survey days.

Fauna surveys were conducted under the Ecology and Heritage Partners Pty Ltd research permit (#10005952) issued by DELWP under the *Wildlife Act 1975*.

## 4 Results

### 4.1 Overall Site Condition

The majority of the study area was characterised by the Ecological Vegetation Class (EVC) *Heavier-soils Plains Grassland* (EVC 132\_61). This EVC is represented by treeless vegetation, dominated by native grasses and herbs within areas that receive at least 500 mm annual rainfall.

Three quality conditions of Plains Grassland were recorded, several high quality patches (PG1; Plate 1), one moderate quality patch, (PG2; Plate 2) and a larger lower quality patch (PG3) (Figure 2). Condition scores based on the habitat hectares assessment for each patch are provided in Appendix 2.

The high and moderate quality patches (PG1 and PG2) meet the key criteria for listing as NTGVVP with a total of 19.12 hectares of NTGVVP recorded within the study area. Further details of the NTGVVP patch are provided in Section 4.2. Surrounding the patch of NTGVVP is lower quality Plains Grassland and the entire study area is confirmed habitat for Golden Sun Moth *Synemon plana*.

Native grass species commonly observed across the site included Spear-grass., Wallaby-grass, Common Wheat-grass *Anthosachne scabra*, Common Tussock-grass *Poa labillardierei*, and native herbs included Bronze Bluebell *Wahlenbergia luteola*, Blue Devil *Eryngium ovinum*, Grassland Wood-sorrel *Oxalis perennans*, Crane's-



bill *Geranium* sp., Pink Bindweed *Convolvulus* sp., Yellow Rush Lily *Tricoryne elatior*, Narrow Plantain *Plantago gaudichaudii* and Twining Glycine *Glycine clandestina* (Plate 3).

Weeds are scattered across the study area with Toowoomba Canary-grass *Phalaris aquatica* being the dominant weed present. All other weeds were present in low concentrations. One woody weed, African Boxthorn *Lycium ferocissimum*, was present in limited numbers with approximately 10 individuals observed, primarily in the north eastern corner of the offset site (Plate 4). A few rabbit warrens were recorded, and several rock piles are present which may harbour pest animal species.



**Plate 1.** High quality Plains Grassland within the study area (Ecology and Heritage Partners Pty Ltd 24/02/2020.).



**Plate 2.** Moderate quality patches of Plains Grassland present within the study area (Ecology and Heritage Partners Pty Ltd 24/02/2020).



**Plate 3.** Native herbs present within the study area (Ecology and Heritage Partners Pty Ltd 24/02/2020).



**Plate 4.** Small patch of African Box-thorn present within the study area Ecology and Heritage Partners Pty Ltd 24/02/2020).

#### 4.2 Natural Temperate Grassland of the Victorian Volcanic Plain

PG1 and PG2 contained a moderate to high cover of native perennial grasses and met the condition threshold that define the NTGVVP community. Native grasses present included Spear-grasses, Wallaby-grasses. and Common Wheat-grass.

Weed cover within PG1 was low, with scattered occurrences of Wild-oat, Toowoomba Canary-grass and Ribwort *Plantago lanceolata*, and several African Box-thorn in the north eastern section of the patch. PG2 had a higher cover of Toowoomba Canary-grass, however still contained at least 50% cover of native perennial grasses and no woody weeds.

#### 4.2.1 Condition Thresholds for listing as Natural Temperate Grassland of the Victorian Volcanic Plain

##### Step 1 – Determining if the Natural Temperate Grassland ecological community is present.

- Does the patch occur within or near the Victorian Volcanic Plain Bioregion? **Yes**
- Is the patch dominated by native vegetation? **Yes**
- Are trees absent or sparse? **Yes – absent**
- Is the ground vegetation dominated by native grasses and/or herbs? **Yes**

##### Step 2 – Determining if the patch is of sufficient quality for national listing.

- Is the patch bigger than or equal to 0.05 hectares? **Yes – 19.12 hectares mapped**
- Do the dominant native species represent at least 50% of the native species and the perennial tussock cover? **Yes**

**Result:** The patch meets the condition thresholds for the nationally significant ecological community.

#### 4.3 Pest and Weed Condition

Table 1 and Table 2 below detail the species and percentage cover of pest animal and weed infestations present within the NTGVVP patches, noting that no woody weeds were recorded in PG2.

**Table 1.** Pest animals recorded within NTGVVP patches.

Habitat zone	Common name	Scientific name	Notes on threat
PG1	European Rabbit	<i>Oryctolagus cuniculus</i>	Small warrens were recorded within and surrounding habitat zone impacting upon native vegetation. Rock pile adjacent to zone which may harbor pest fauna.
	Red Fox	<i>Vulpes vulpes</i>	Small amount of disturbance, no dens observed within habitat zone.
PG2	European Rabbit	<i>Oryctolagus cuniculus</i>	Small warrens were recorded within and surrounding habitat zone impacting upon native vegetation.
	Red Fox	<i>Vulpes vulpes</i>	Small amount of disturbance, no dens observed within habitat zone.

**Table 2.** Woody weeds recorded within patches of NTGVVP

Habitat zone	Common name	Scientific name	Notes on threat
PG1	African Box-thorn	<i>Lycium ferocissimum</i>	A low number of African Box-thorn were recorded within PG1. Eradication will be achievable within a prescribed 10-year management plan.



**Table 3.** Total cover of woody weeds recorded in PG<sub>1</sub> habitat zone

Habitat zone	Total cover of woody weeds recorded (%)
<b>PG<sub>1</sub></b>	1% total cover of woody weeds within PG <sub>1</sub> habitat zone.

**Table 4.** Total cover of herbaceous and grassy weeds recorded in NTGVVP patches

Habitat zone	Total cover of ALL herbaceous and grassy weeds (%)	Total cover of high threat herbaceous and grassy weeds (%)
<b>PG<sub>1</sub></b>	30% - Common weeds; Toowoomba Canary-grass, Wild Oat	20% - Common high threat weeds; Toowoomba Canary-grass
<b>PG<sub>2</sub></b>	40% - Common weeds; Toowoomba Canary-grass, Wild Oat	30% - Common high threat weeds; Toowoomba Canary-grass

#### 4.4 Golden Sun Moth Targeted Survey

Targeted surveys for Golden Sun Moth were undertaken over two separate days during the known flight season, on 9 and 16 of December 2019, with approximately 60 Golden Sun Moth recorded during the surveys (Figure 2). A summary of survey results, reference site where Golden Sun Moth were known to be flying on the survey day and weather conditions is given below in Table 5.

**Table 5.** Golden Sun Moth survey results

Date	Survey times	Reference Site*	Temperature (°C)	Wind (km/hr)	Cloud cover (%)	No. of days since rain	No. GSM
09/12/2019	10:00 – 15:00	Craigieburn	35.0	17	10	5	2
16/12/2019	10:00 – 15:30	Broadmeadows	23.0	15	0	7	60+

\*reference site refers to known locations of GSM populations where individuals were recorded flying on the day of the relevant survey to allow confidence that the survey conditions were suitable.

## 5 Discussion

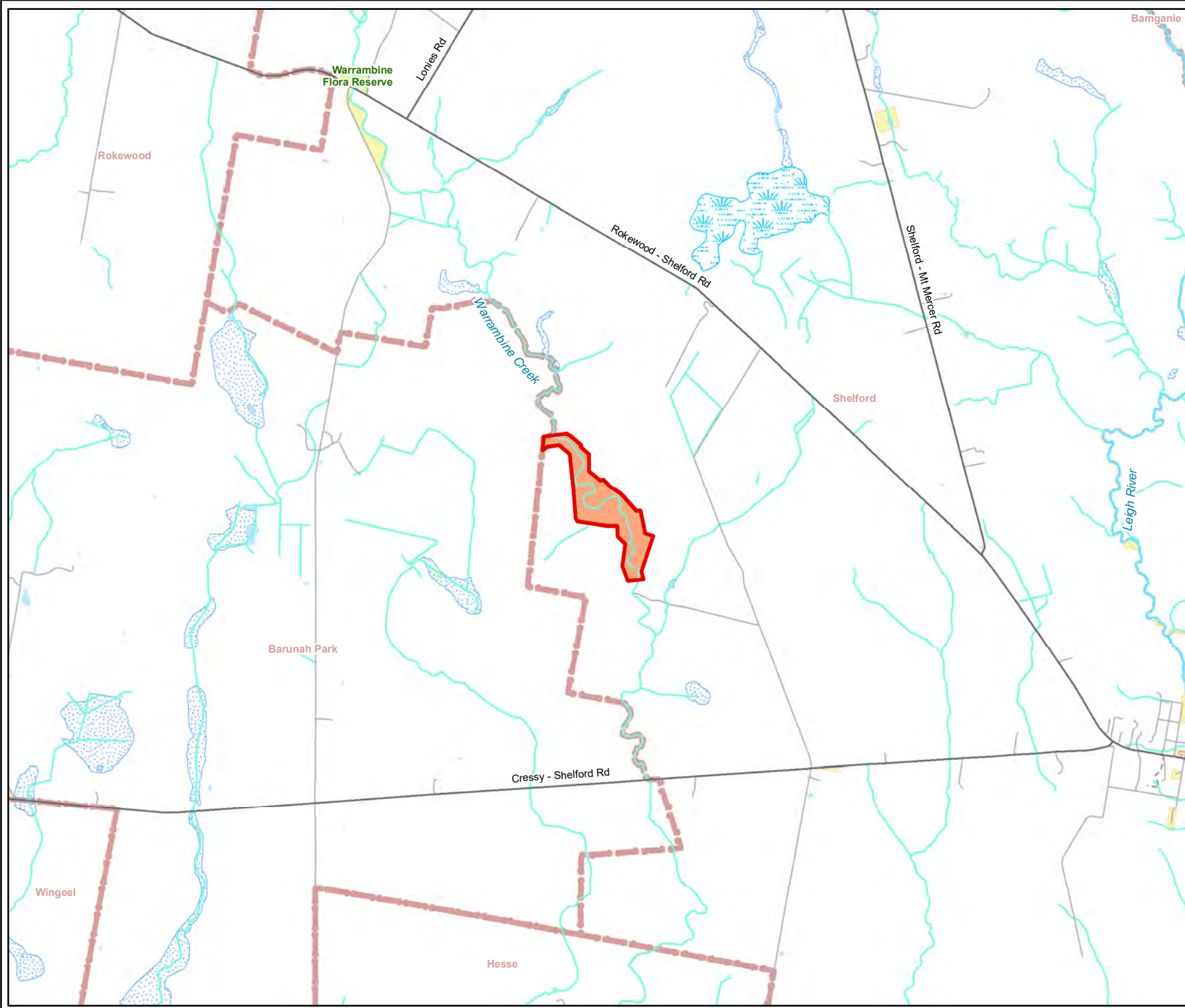
Several patches (PG<sub>1a-g</sub>; PG<sub>2a</sub>) of NTGVVP were recorded within the study area, totalling 19.12 hectares of NTGVVP within the broader proposed offset area. The remaining patches (PG<sub>3</sub>) do not currently meet the condition thresholds for listing as the ecological community due to the high weed cover (up to 40%), however, may meet the thresholds in the future if the weed cover within the patch is reduced, primarily through the reduction in cover of the perennial weed, Toowoomba Canary-grass.

Golden Sun Moth surveys were undertaken within the northern section of the study area, with numerous individuals recorded flying in the grassland patches, in both NTGVVP and lower quality Plains Grassland areas.

The offset site contains the required 3.45 hectares of NTGVVP and 26.5 hectares of Golden Sun Moth habitat to offset the removal of each matter of National Environmental Significance at the impact site.

## References

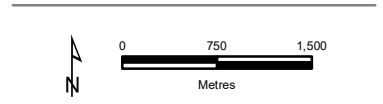
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- Legend**
- Study Area
  - Collector Road
  - Minor Road
  - Proposed Road
  - Minor Watercourse
  - Major Watercourse
  - Permanent Waterbody
  - Land Subject to Inundation
  - Wetland/Swamp
  - Parks and Reserves
  - Crown Land
  - Localities



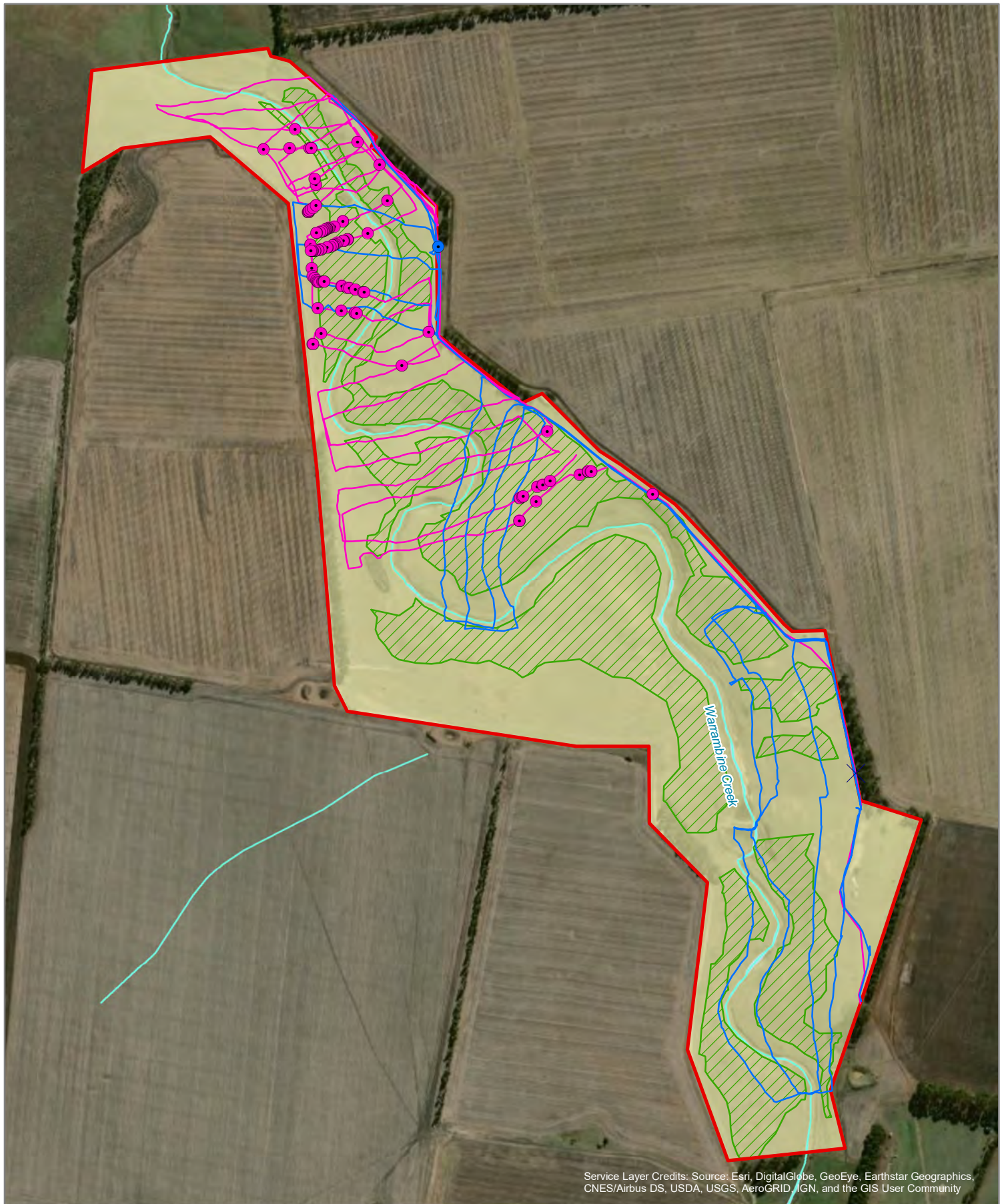
**Figure 1**  
**Location of the study area**  
*EPBC 2018/8260, Mount Gow,*  
*Shelford, Victoria*



VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

10223\_Fig01\_StudyArea\_7/05/2020\_Irvy



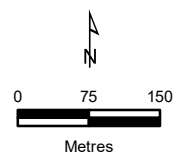


Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Figure 2**  
**Ecological features**  
*Matters of National Environmental Significance recorded at Mount Gow, Shelford, Victoria*

**Legend**

- Study Area
- Golden Sun Moth records (9/12/2019)
- Golden Sun Moth records (16/12/2019)
- Survey tracks (9/12/2019)
- Survey tracks (16/12/2019)
- Golden Sun Moth habitat
- Natural Temperate Grassland of the Victorian Volcanic Plain



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## Appendix 1 – Flora List

### Legend:

\* Listed as a noxious weed under the CaLP Act;

w Weed of National Significance;

**Table A1.1.** Flora recorded within the study area

Scientific Name	Common Name	Conservation Status/Notes
<b>INDIGENOUS SPECIES</b>		
<i>Alternanthera denticulata</i>	Lesser Joyweed	-
<i>Anthosachne scabra</i>	Common Wheat-grass	-
<i>Austrostipa</i> spp.	Spear-grass	-
<i>Convolvulus</i> sp.	Pink Bindweed	-
<i>Eryngium ovinum</i>	Blue Devil	-
<i>Eryngium vesiculosum</i>	Prickfoot	-
<i>Geranium</i> sp.	Crane's Bill	-
<i>Glycine clandestina</i>	Twining Glycine	-
<i>Oxalis perennans</i>	Grassland Wood-sorrel	-
<i>Plantago gaudichaudii</i>	Narrow Plantain	-
<i>Poa labillardieri</i>	Common Tussock-grass	-
<i>Rytidosperma</i> spp.	Wallaby-grass	-
<i>Tricoryne elatior</i>	Yellow Rush lily	-
<i>Walenbergia luteola</i>	Bronze Bluebell	-
<b>NON-INDIGENOUS OR INTRODUCED SPECIES</b>		
<i>Acetosella vulgaris</i>	Sheep Sorrel	-
<i>Avena fatua</i>	Wild Oat	-
<i>Cirsium vulgare</i>	Spear Thistle	*
<i>Hordeum</i> spp.	Barley Grass	-
<i>Hypochaeris radicata</i>	Cat's-ear	-
<i>Lycium ferocissimum</i>	African Box-thorn	w*
<i>Nassella trichotoma</i>	Serrated Tussock	w*
<i>Phalaris aquatica</i>	Toowoomba Canary-grass	*
<i>Romulea rosea</i>	Onion Weed	-
<i>Vulpia</i> spp.	Rat-tail Fescue	-

## Appendix 2 – Habitat Hectare Assessment

**Table A2.1.** Habitat Hectare Table for patches of Plains Grassland within the offset area.

Vegetation Zone		PG1	PG2	PG3
Bioregion		Victorian_Volcanic_Plain	Victorian_Volcanic_Plain	Victorian_Volcanic_Plain
EVC / Tree		Plains Grassland (Heavier Soils)	Plains Grassland (Heavier Soils)	Plains Grassland (Heavier Soils)
EVC Number		132_61	132_61	132_61
EVC Conservation Status		Endangered	Endangered	Endangered
Patch Condition	Large Old Trees /10	na	na	na
	Canopy Cover /5	na	na	na
	Under storey /25	15	10	10
	Lack of Weeds /15	6	4	2
	Recruitment /10	6	6	3
	Organic Matter /5	5	4	4
	Logs /5	na	na	na
	Treeless EVC Multiplier	1.36	1.36	1.36
	Subtotal =	43.52	32.64	25.84
Landscape Value /25	16	16	16	
Habitat Points /100	60	49	42	
<b>Habitat Score</b>		<b>0.60</b>	<b>0.49</b>	<b>0.39</b>

## **Appendix R: Cressy OMP**

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Parwan to Melton Pipeline, Victoria: EPBC 2018/8260

Annual Compliance Report: Year 1 (21 November 2022 – 21 November 2023)

**Approved By:** Warren Price on 15/02/2024



Final Report

# Offset Management Plan: 6060 Hamilton Highway, Cressy, Victoria (EPBC 2018/8260) – Version 3

Prepared for

CH2M Beca (on behalf of Greater Western Water)

May 2022



Ecology and Heritage Partners Pty Ltd

## DOCUMENT CONTROL

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<b>Assessment</b>	EPBC 2018/8260: Offset Management Plan
<b>Address</b>	6060 Hamilton Highway, Cressy, Victoria
<b>Project number</b>	10223
<b>Project manager</b>	Claire Ranyard (Senior Botanist)
<b>Report reviewer</b>	Aaron Organ (Director – Principal Ecologist)
<b>Mapping</b>	Dr Monique Elsley (GIS Coordinator)
<b>File name</b>	10223_EHP_Parwan-Melton-Pipeline_CressyOMP_Version3_13052022
<b>Client</b>	CH2M Beca (on behalf of Greater Western Water)
<b>Bioregion</b>	Victorian Volcanic Plain
<b>CMA</b>	Corangamite
<b>Council</b>	Colac Otway Shire

Report versions	Comments	Comments updated by	Date submitted
Version 1	Include date of approval Client comments addressed and submitted to DAWE	JM, AO	19/03/2021
Version 2	Submitted to DAWE on 30 April 2021 and included in Approval Conditions dated 4 May 2021	JM, AO	30/04/2021
Version 3	Report updated based on landholder comments and to satisfy DAWE Approval Condition 6	CR	13/05/2022

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## GLOSSARY

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Acronym	Description
Approval holder	means the persons to whom the approval is granted, or to whom the approval is transferred under section 145B of the EPBC Act (persons taking the action).
CaLP	<i>Catchment and Land Protection Act 1994</i>
CMA	Catchment Management Authority
DELWP	Victorian Department of Environment, Land, Water and Planning
DEWHA	(former) Commonwealth Department of Environment, Water, Heritage and the Arts
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DSEWPaC	(former) Commonwealth Department of Sustainability, Environment, Water Population and Communities.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
GSM	Golden Sun Moth
NES	National Environmental Significance
NTGVVP	Natural Temperate Grassland of the Victorian Volcanic Plain
OMP	Offset Management Plan
TfN	Trust for Nature

## DECLARATION OF ACCURACY

---

I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying this Management Plan (EPBC 2018/8260: Offset Management Plan: Parwan to Melton Pipeline, Victoria) is complete, current and correct.
2. I am duly authorised to sign this declaration on behalf of the approval holder.
3. I am aware that:
  - a. Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.
  - b. Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) where the person knows the information or document is false or misleading.
  - c. The above offences are punishable on conviction by imprisonment, a fine or both.

---

Signed

---

Full name (please print)

---

Organisation (please print)

---

Date

## EXECUTIVE SUMMARY

---

### Introduction

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed recycled water pipeline, Parwan to Melton, Victoria (EPBC 2018/8260).

The intention of this OMP is to detail the offset strategy to mitigate the loss of 5.1 hectares of Golden Sun Moth *Synemon plana* (GSM) habitat and 4.96 hectares of the ecological community, *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP) at the development site. This is achieved by outlining management actions for the protection of 30 hectares of GSM habitat and 33 hectares of NTGVVP at a site located at 6060 Hamilton Highway, Cressy, Victoria. The OMP has been written in consultation with the landowner of the offset site and is intended to be implemented by the landowner (Note: Landowner name removed from document during public comment period to protect privacy).

The proposed GSM and NTGVVP offsets outlined within this OMP comprise a portion of land within the property, not the entire Cressy property. This will be managed concurrently with the area covered by this management plan.

### Proposed Offset Site

The proposed offset site is located within an allocated portion of 6060 Hamilton Highway, Cressy, on land referred to as “Chathams Block”. The offset site contains known habitat for GSM and patches of high-quality Plains Grassland which meet the key criteria for listing as the nationally significant ecological community NTGVVP. In accordance with the *Planning and Environment Act 1987*, 30 hectares of GSM habitat and 33 hectares of NTGVVP will be protected on-title through a Section 173 Agreement as an interim mechanism, and secured via a Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* within 24 months post approval. The 30 hectares of GSM will be situated within the 33 hectare NTGVVP offset area.

### Management Actions

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat and NTGVVP, through the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context. The landholder will adopt an adaptive management approach to allow flexibility to respond appropriately and effectively to uncertainties involved in ecological processes. This will ensure that management objectives are being met while allowing for altered circumstances to be included in the management of the offset site.

Any proposed changes to the management actions for the offset site contrary to those specified within this plan must be approved by the Commonwealth Department of Agriculture, Water and Environment (DAWE) prior to implementation. Any proposed uses or development of the offset site which conflict with the landowners’ commitments or maintenance/improvement of the community are not permitted under this plan.

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# 1 INTRODUCTION

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## 1.1 Background

Ecology and Heritage Partners Pty Ltd was engaged by CH2M Beca to prepare an Offset Management Plan (OMP) to compensate for impacts associated with the proposed development for the Parwan to Melton Pipeline, Victoria (EPBC 2018/8260).

A referral for the action was submitted for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2018/8260). The referral will be assessed under Preliminary Documentation, which requires the proponent to prepare and implement an Offset Management Plan to compensate for the removal of 10.357 hectares of Golden Sun Moth (GSM) habitat and 4.96 hectares of the nationally significant community: *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP).

The intention of this OMP is to detail the ongoing management actions required to protect 30 hectares of GSM habitat, as well as 33 hectares of NTGVVP at a third-party offset site located at 6060 Hamilton Highway, Cressy, Victoria, in order to offset the proposed impacts. The OMP has been written in consultation with the landowner of the Cressy offset site and management will be implemented by the landowner.

The OMP is both strategic and focused on management actions and performance measures (quantitative amounts indicated, where appropriate) in order to address management issues and key threats across the offset site.



## 2 OBJECTIVES AND CONTEXT OF THE PROJECT

---

### 2.1 Impact Site

The impact site (study area) for the proposed Parwan to Melton recycled water pipeline is located mostly within private property south of Nerowie Road and is bounded by Parwan South Road (west) and Butlers Road, approximately 60 kilometres north west of Melbourne's CBD. The impact site is long and linear and comprises the road reserve of Nerowie Road and intersects Bucklers Road, Green Hill Road, and Eynesbury Road in Eynesbury (from west-east).

At the time that the EPBC referral (2018/8260) was lodged in August 2018, two alignments were considered: a preferred and alternative alignment. The confirmed study area is the preferred (or southern) alignment, which is approximately 13 kilometres long, with a construction footprint of 35 hectares. The study area is comprised of road reserves and agricultural land used mostly for grazing and some cropping, which is generally flat until it intersects the Werribee River. Patches of native vegetation identified along the length of the pipeline are interspersed with Chilean Needle-grass *Nasella neesiana*, a preferred food plant of the GSM.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool (DELWP 2021a), the study area occurs within the Victorian Volcanic Plain bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and transects between the Melton Shire Council and Moorabool Shire Council municipalities. Relevant Melton Planning Scheme overlays which apply to the study area are the Design and Development Overlay – Schedule 2 (DDO2), Environmental Significance Overlay – Schedule 1 (ESO1) and 4 (ESO4). The Green Wedge Zone (GWZ) also applies to the study area.

The proposed action at the impact site will have a direct impact on 10.357 hectares of GSM habitat and 4.96 hectares of NTGVVP. The objectives of this OMP are to offset the loss of 5.1 hectares of GSM habitat and 4.96 hectares of the nationally significant ecological community NTGVVP. GSM and NTGVVP are listed as Critically Endangered under the EPBC Act (at the time of the decision made on the EPBC act referral).

### 2.2 Offset Site

#### 2.2.1 Description of the Offset Site

The third-party offset site (offset site) is located at a private property at 6060 Hamilton Highway, Cressy, Victoria, approximately 110 kilometres west of Melbourne's CBD (Figure 1). The offset site is in a relatively undisturbed state (i.e. no history of having been ploughed), evident through the presence of embedded rock across the site. The site is currently used for the grazing of sheep and the properties surrounding the offset site are used for a mixture of agricultural activities including grazing and cropping. The offset site is within the Farming Zone (FZ) and is a Designated Bushfire Prone Area. The offset site is not subject to any specific planning overlays however the southern portion of 680 Hamilton Highway (immediately to the east of the offset site) is subject to an Environmental Significance Overlay. No cultural heritage overlay applies to the site.

The offset site is part of a larger patch of native vegetation within an established offset site adjoining the northern boundary of the NTGVVP offset area covered by this OMP (Figure 2).



According to the Department of Environment, Water, Land and Planning (DEWLP) Native Vegetation Information Management Tool (NVIM) (DEWLP 2021a), the offset site occurs within the Victorian Volcanic Plain Bioregion. It is located within the jurisdiction of the Corangamite Catchment Management Authority (CMA) and the Colac Otway Shire municipality.

Previous assessments of the offset site were undertaken by Biosis (2019), SMEC (2019) and Ecology and Heritage Partners Pty Ltd (2018). These assessments focused on determining the ecological values present within the broader area proposed for use as future offsets. The ecological values of the offset site include high quality grassland, some of which meets the threshold to be classified as NTGVVP and grassland habitat for SLL and GSM. Previous surveys identified three MNES included within the offset site area; GSM, SLL, NTGVVP. An updated assessment of weed cover at the offset site was undertaken by Ecology and Heritage Partners on 10 February 2022.

The offset site will protect 33 hectares of land (including 33 hectares of NTGVVP, overlapping with 30 hectares of GSM habitat). The offset site is located within a larger area of native vegetation, containing approximately 262 hectares of confirmed GSM and SLL habitat, and NTGVVP (Biosis 2019; SMEC 2019).

### Golden Sun Moth

Incidental records identified 55 individuals observed on 21 November 2018 (Biosis 2019). SMEC undertook surveys on 29 and 30 November 2018 and 6 and 12 December 2018, with a total of approximately 2969 individuals recorded during the survey event (SMEC 2019). GSM were distributed throughout the broader offset area, with suitable habitat present across the site. It should be noted 2018 was a year with large numbers of moths flying.

### Natural Temperate Grassland of the Victorian Volcanic Plain

The entire 33 hectare proposed offset area contains high-quality Plains Grassland of which most of it meets the condition threshold to constitute NTGVVP. NTGVVP within the offset area is dominated by native grasses, including Kangaroo Grass *Themeda triandra*, Wallaby-grass *Rytidosperma* spp., Spear-grass *Austrostipa* spp., and Tussock-grass *Poa* spp. (Biosis 2019). A mixture of native herbs occurred within the site, with commonly observed species including Blue Devil *Eryngium ovinum*, Bindweed *Convolvulus angustissimus*, Cut-leaf Burr-daisy *Calotis anthemoides* and Common Woodruff *Asperula conferta* (Biosis 2019).

Weeds have previously been recorded within the offset area, primarily consisting of Flatweed *Hypochaeris radicata*, Yorkshire Fog *Holcus lanatus*, Toowoomba Canary-grass *Phalaris aquatica* and annual grasses such as Hair-grass *Aira* spp., Quaking-grass *Briza* spp., Squirrel-tail Fescue *Vulpia myuros* and Brome *Bromus* spp. No woody weeds were recorded within the offset area (Biosis 2019), which was confirmed during the February 2022 site visit.

The MNES relevant to this OMP will be protected on-title through a Section 173 Agreement under the *Planning and Environment Act 1987* as an interim mechanism. A Trust for Nature covenant under the *Victorian Conservation Trust Act 1972* will be established in perpetuity for the area covered by this OMP. This OMP provides the specific management actions for to be implemented under both the Section 173 Agreement and the subsequent Covenant.

### 2.2.2 Tenure Arrangements

The proposed offset site is privately owned and is currently in the process of being protected through a Section 173 Agreement under the *Planning and Environment Act 1987*. Further, the offset site will be

protected via a Trust for Nature conservation covenant within 12 months of the EPBC Act referral (2018/8260) approval being granted. Once the Trust for Nature Covenant is secured on title, the Section 173 Agreement will be removed.

### **2.2.3 Environmental Condition and Values**

The offset site contains a large population of GSM, which reside within the areas of NTGVVP. This OMP will focus on two matters of NES relevant to the proposed action (NTGVVP and GSM). One additional matter, Striped Legless Lizard is known to occur within the offset area.

### 3 RISK ASSESSMENT

An assessment of potential risks associated with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within subsequent sections of this OMP address relevant risks.

**Table 1.** Risk assessment and management table for specific offset site for GSM and NTGVVP (Appendix 1).

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To legally secure approved offset properties for conservation.	Failure to legally secure approved offset site	Engage with expert offset brokers	Unlikely	Moderate	Low	n/a	Engage a consultant	Low risk: the site is currently in the process of being secured with an on-title agreement (Section 173 Agreement). Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
	Legislative reform prejudices proposed tenure arrangements for offset properties.	Monitor DAWE, DEWLP LGAs and other legislative bodies on developments to offsets	Rare	High	Low	Newsletters, expert liaison, press releases and direct contact.	Adjust offset calculations accordingly.	

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To achieve performance targets and completion criteria for all MNES	Landowner-proponent agreements fail to adequately address management commitments in the offset plan	Engage an expert to manage this process. Ensure all impacts are suitably offset.	Unlikely	High	Medium	Quality assurance and monitoring	Revise on-title and/or proponent agreements.	The site will be protected through a Section 173 Agreement. The Section 173 Agreement will be placed on-title and therefore undergo a further review by the Titles Office. Further, the site will be secured via a Trust for Nature covenant within 24 months post approval of the referral.
To achieve performance targets and completion criteria for all MNES	Adjacent/regional landowner's land management practices fail to support attainment of offset outcomes.	Liaise with adjacent landholders. Ensure understanding of offset objectives	Unlikely	High	Medium	Adjacent land practices begin to negatively impact offset site.	Take steps to halt negative impacts. Follow up with stakeholder discussions	The adjacent land parcels contain agricultural land (grazing and/or cropping). Based on the current land management practices in the region and it is unlikely that any foreseeable land management practices within the vicinity will impact the offset site.
To achieve performance targets and completion criteria for all MNES	Insufficient funds provided by proponent to implement the plan.	Ensure reputable land holder to implement plan.	Unlikely	High	Medium	Monitoring and/or annual reporting	Review plan for cost efficiencies.	The offset funds provided by the proponent will be deposited to the land holder. The landholder

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
To achieve performance targets and completion criteria for all MNES	Stochastic events (wildfire/drought/flood) prejudice attainment of interim performance targets and/or completion criteria for MNES.	Ensure appropriate biomass management. Plan for scheduling delays.	Possible	High	Medium	Monitoring and/or annual reporting	Apply adaptive management to ensure the objectives of the OMP are not compromised.	-
	Approved development on/near project/offset prejudicing plan outcomes	Ensure proper stakeholder engagement to prevent poor outcomes.	Unlikely	High	Medium	Advertisement of planning scheme amendments/planning permit applications	Objection to proposed development/laisse with proponent to ensure the proposed development does not compromise the objectives of the OMP.	The offset site is within a semi-rural agricultural landscape, as such, there is a low likelihood of development within adjacent properties. The ecological values within the offset site do not rely on habitat values within adjacent land.
	Drought	Apply adaptive management to ensure the site is not over-grazed	Likely	Moderate	Medium	Drought Event	Apply adaptive management to ensure the site is not over-grazed	The NTGVVP offset (33 hectares) includes the GSM offset (30 hectares). The offset site sits within 262 hectares of similar quality grassland within the property. The offset site and adjacent areas have been historically subject to frequent
	Wildfire		Likely	Moderate	Medium	Wildfire Event		

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
NTGVVP habitat improved								drought and occasional wildfire. As such, the GSM population and NTGVVP community is likely to survive such an event.
	Uncontrolled grazing	Maintain fences and install temporary fencing, if required (Section 5.5.3.)	Highly Likely	Moderate	Unlikely	Continual monitoring	Repair permanent fences, and/or install temporary exclusion fences.	The strategic grazing regimes specified within this plan aim to shift species dominance to favour native species abundance and diversity, improving the ecological condition and habitat.
		Exclude stock during (October-November) (see Section 5.5.6 for further information on exclusion period)						
	High biomass levels preventing establishment of native herbs (see Section 5.5.6.4 for performance indicators)	Undertake pulse grazing (Section 5.5.6.)	Highly Likely	Moderate	Possible	Annual monitoring	Apply pulse grazing in appropriate season to reduce biomass levels (Section 5.5.6.2)	
Grazing excluded between October-November annually, in perpetuity (Section 5.5.6)								
Loss of biodiversity due to competition with weeds (see	Spot spraying of weeds (Section 5.5.4.)	Likely	Moderate	Possible	Annual monitoring	Undertake weed control activities (Section 5.5.4)	The Offset Management Plan includes actions to reduce weed cover, improving the ecological	

Management objective/desired outcome	Event or circumstance	Relevant management actions/measures	Residual risk			Trigger detection and monitoring activity/ies	Feasible/effective corrective actions	Notes
			L	C	RR			
	Section 5.5.4.3 for performance indicators)	Undertake pulse grazing (Section 5.5.6)						condition of the site over the 10 year period.
		Annual monitoring to adapt future control works and targets (Section 8)						
	Loss of biodiversity due to pest animal activity (see Section 5.5.5.3 for performance indicators)	Rabbit warrens or fox dens are controlled (Section 5.5.5)	Likely	Moderate	Possible	Annual monitoring	Undertake pest control activities (Section 5.5.5.)	The Offset Management Plan includes actions to reduce pest animal activity, thereby reducing grazing/soil disturbance by the European Rabbit. As a result, the GSM population and NTGVVP ecological community is likely to improve and expand within the site as it is managed.

Notes. L = Likelihood; C = Consequence; RR = Residual Risk

## 4 UNAVOIDABLE LOSS AND OFFSET OBLIGATIONS

### 4.1 Unavoidable Loss

The proposed development at the impact site (Parwan to Melton Pipeline) will result in the removal of the following Matters of National Environmental Significance (NES):

- 10.357 hectares of Golden Sun Moth;
- 4.96 hectares of *Natural Temperate Grassland of the Victorian Volcanic Plain*, and;
- 0.266 hectares *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia*.

### 4.2 Offset obligations, user inputs and applying the offset guide

#### 4.2.1 Golden Sun Moth and Natural Temperate Grassland of the Victorian Volcanic Plain

Based on the EPBC Act offset calculator (DSEWPaC 2012b), the protection and management of 30 hectares of GSM habitat (which overlaps with NTGVVP) at the Cressy offset site provides a direct offset for the impacts to 5.1 hectares of GSM habitat. (Table 2; Appendix 2). The protection and management of 33 hectares of *Natural Temperate Grassland of the Victorian Volcanic Plain* within the proposed offset site provides a direct impact offset of 100.13% (Table 3; Appendix 2). As such, 100% of the offset requirements will be met through direct offsets and are considered to be in accordance with the Commonwealth environmental offset policy (DSEWPaC 2012a).

**Table 2** EPBC Act Offset Calculator (Golden Sun Moth) associated with the Cressy offset site

Offset Criteria	Response
<b>Impact Site</b>	
<b>Impact Location</b>	Parwan to Melton Pipeline: south of Nerowie Road, Parwan, VIC
<b>Habitat to be removed</b>	5.1 hectares of Golden Sun Moth habitat (GSM)
<b>Habitat quality</b>	5/10. A total of 991 moths were recorded during the 2016/17 flight season. However, most moths were recorded along the alternative alignment, which will no longer be impacted. The GSM habitat within the impact area is also dominated by Chilean Needle-grass <i>Nassella neesiana</i> , which is a noxious weed. Therefore, the habitat quality at the impact area is of moderate quality (DSEWPaC 2012b).
<b>Offset Site</b>	
<b>Offset location</b>	6060 Hamilton Highway, Cressy, Victoria
<b>Risk-related time horizon</b>	20 years. The land will be managed in perpetuity for conservation purposes for Golden Sun Moth.
<b>Time until ecological benefit</b>	10 years. The existing habitat condition is expected to be improved over the 10-year active management schedule detailed in the Offset Management Plan. Potential management activities may include, but are not limited to ecological burning, tactical grazing, bush regeneration and treatment of pest fauna. Golden Sun Moth relies upon native and/or non-native grassland



Offset Criteria	Response
	<p>habitat (especially those dominated by tussock forming grass species). Where suitable habitat is available, the species can tolerate grazing but requires areas without a recent history of cropping. Improving vegetation structure (e.g., regrowth of heavily grazed grassland) could be achieved over relatively short time periods (i.e., 2 - 5 years), however ecological benefits arising from management would be conservatively assessed after a 10-year period to allow the species sufficient time to re-stock the site following habitat improvements.</p>
<p><b>Start area and quality of offset site</b></p>	<p>30 hectares in total, assigned a starting quality of 6/10.</p> <p>The offset site was assessed by SMEC during the Golden Sun Moth flight season in 2018 (SMEC 2019). The Golden Sun Moth habitat surveyed previously was high quality, with approximately 2969 moths recorded across the broader offset area (262 ha area). GSM habitat covers the entire selected offset site, which is located within a broader patch of suitable habitat approximately 262 hectares in size (SMEC 2019). The habitat quality is based on (DSEWPaC 2012b):</p> <p>Site condition: 6/10. The site supports a diversity of native grasses, including key grass species associated with Golden Sun Moth (Wallaby-grass <i>Rytidosperma</i> spp., Spear-grass <i>Austrostipa</i> spp.) with at least 40% cover of native grass; The starting site condition was assessed through a Vegetation Quality Assessment (VQA) using the habitat hectare assessment method. The VQA scores for site condition were as follows: understorey score of 15/25, weed score of 6/15, recruitment score of 10/10 and organic litter score of 5/5 (Biosis 2019). The presence of exotic grasses, primarily Toowoomba Canary-grass and Brown-top Bent-grass and Flatweed, negatively impacted both the weed score and understorey score.</p> <p>The Victorian Biodiversity Atlas has multiple records of Golden Sun Moth scattered within 10-kilometres of the study area, indicating that other suitable habitat exists within the broader region, and the population within the offset site is not an isolated population. Threats that occur to the population within and adjacent to the offset site include the loss of suitable habitat through land clearance (cropping) or disturbance (heavy grazing/slashing).</p> <p>The habitat at the offset site is of moderate-high quality for Golden Sun Moth. This is due to a native vegetation cover of at least 40% including key food resources (wallaby-grass, spear-grass, Kangaroo Grass) present within the offset area.</p>
<p><b>Risk of loss without offset</b></p>	<p>5%. There are currently no formal protection mechanisms that protect the ecological values present within the offset site, however additional offset sites are located adjacent to the proposed offset site, which are protected via a Trust for Nature covenant (EPBC 2019/8569). Without protection and ongoing management as an offset site, there is a degree of uncertainty regarding the future condition of the land.</p> <p>As the broader offset property is zoned Farming Zone (FZ), there is a risk that the Golden Sun Moth will be lost by intensified agricultural use (e.g. cropping or intensified grazing). Inappropriate grazing regimes by hard-hooved livestock at higher stocking densities will result in compaction of the soil, which negatively impacts Golden Sun Moth. Intensive agricultural activities such as ploughing, sowing pasture grasses, fertiliser application and/or tilling the soil is likely to result in complete loss of the Golden Sun Moth population. The risk posed by intensification of agricultural use is evidenced by cropping activities in properties surrounding the offset site. A protective covenant provides legal protection, averting this risk of losing the Golden Sun Moth community within the site.</p>
<p><b>Future quality without offset</b></p>	<p>5/10. Without protection as an offset site there is uncertainty regarding the future condition of the land. Without increased management as an offset, a reduction in quality over time is likely to occur due to continued pest and weed encroachment from the broader property, adjoining properties and nearby roads, as well as a lack of conservation land management, including biomass management resulting in a reduction in species diversity.</p> <p>Relatively small areas within the site have a high cover (30%) of Toowoomba Canary-grass, which is a fast-growing species that can quickly outcompete native grass species such as wallaby-grass</p>

Offset Criteria	Response
	<p>and spear-grass. Without ongoing management, this weed can displace plants that constitute important food resources for the Golden Sun Moth.</p> <p>Without strategically designed grazing strategies, stock can overgraze/undergraze Golden Sun Moth habitat, leading to a shift in introduced species dominance and/or, soil compaction, which reduces the viability of the offset site to support Golden Sun Moth.</p> <p>Rabbits were recorded within and nearby the offset site. Without increased management, rabbits are likely to prevent the recruitment of host plants, leading to a decline in the Golden Sun Moth community.</p>
<b>Risk of loss with offset</b>	<p>1%. There is a 1% chance that the GSM population will be lost with the offset being protected and managed in accordance with the OMP placed on-title. There is a low level of risk given the evidence of recent voluntary conservation works (weed control targeting GSM known habitat) within the site, these works have proved to be successful, demonstrating the landholder's capability in managing threats. Further, the availability of GSM habitat adjacent to the offset site further consolidates habitat within the property.</p>
<b>Future quality with offset</b>	<p>7/10. There is a high level of confidence that the future quality of the Golden Sun Moth offset site will increase through the active implementation of the various actions outlined in the Offset Management Plan. There is a high likelihood that the management actions provided in the Offset Management Plan will lead to an increase in the species' habitat quality, site occupancy and population size. The management actions outlined in this Plan are well known and proven, and therefore there is a high likelihood that the quality of the habitat will improve in the future (DEWHA 2009a, 2009b).</p> <p>Currently, the exotic vegetation cover is variable across the site, with the average cover being approximately 45%. It is expected that at the end of the 10-year management period the exotic vegetation cover will not exceed 45%. It is expected that at the end of the 10-year management of the site, the weed score will be maintained at 6/15 and the recruitment score maintained at 10/10. The weed score will be maintained through the management of exotic grasses, where biomass will be monitored to ensure adequate inter-tussock spacing, and targeted control of Toowoomba Canary-grass will be undertaken. The targeted control of Toowoomba Canary-grass will provide opportunity for native grass and herb recruitment, increasing the cover of native species and maintaining or improving the understorey score to a minimum of 15/25. Further detailed on weed control actions are detailed in Section 5.5.4.</p> <p>Due to the commitment of the current landowner and investment in the active management of the site these factors provide a high level of confidence that the future quality of the offset will increase (i.e. a score of seven is realistic).</p> <p>The offset site is to be secured and managed for conservation purposes in perpetuity, with implementation of a management plan incorporating weed control, biomass control and regular monitoring, aiming to enhance native biodiversity.</p> <p>The species was previously observed in grassland areas with at least 20% native grass cover (wallaby-grass, spear-grass) and weed management is necessary to ensure that native grass cover is maintained.</p> <p>Appropriate livestock grazing management is necessary to ensure that soil compaction is minimised and native grasses are not overgrazed. Low density grazing can be beneficial for maintaining GSM habitat.</p> <p>Pest management is required to ensure rabbit populations are managed and numbers are reduced to prevent over-grazing.</p>
<b>Confidence in result</b>	<p>80-90%. Confidence in applied scores is relatively high due to careful consideration of the offset site, existing condition and evidence of the landholder's capability to manage threats through recent conservation works. The site will be protected through a Section 173 Agreement under the <i>Planning and Environment Act 1987</i> with Council. Council undertakes a quality assurance process for all offset sites to ensure the landowner agreements address the management commitments in the plan.</p>

Offset Criteria	Response
	Further, the site will be secured via a Trust for Nature covenant under the <i>Victorian Conservation Trust Act 1972</i> within 24 months post approval of the referral.
% of impact offset off-site	30 hectares high quality GSM habitat: 100.50%

**Table 3.** EPBC Act Offset Calculator (Natural Temperate Grassland of the Victorian Volcanic Plain)

Offset Criteria	Response
<b>Impact Site</b>	
<b>Impact Location</b>	Parwan, VIC (linear corridor from around Werribee River to Parwan South Road)
<b>Habitat to be removed</b>	4.96 hectares of Natural Temperate Grassland of the Victorian Volcanic Plains (NTGVVP)
<b>Habitat quality</b>	The NTGVVP patches of Plains Grassland proposed to be removed are of low-moderate quality with a Habitat score of between 31-34 out of 100. The NTGVVP patches were predominately characterised by the presence of one to several native tussock grasses. Many of these have degraded since the initial site assessment due to existing or altered land use. The current condition is based on a high weed cover and the isolated nature of the patches within an agricultural landscape, which are therefore vulnerable to edge effects (livestock grazing, fertiliser use, weed encroachment and land use practices) (Ecology and Heritage Partners 2020c).
<b>Offset Site</b>	
<b>Offset location</b>	Cressy, Victoria
<b>Risk-related time horizon</b>	20 years. The land will be managed in perpetuity for conservation purposes for Natural Temperate Grassland of the Victorian Volcanic Plains
<b>Time until ecological benefit</b>	10 years. The existing habitat condition is expected to be improved over the 10-year active management schedule detailed in the Offset Management Plan.
<b>Start area and quality of offset site</b>	<p>33 hectares; 6/10. The offset site was assessed by Biosis (2019) which recorded approximately 262 hectares of NTGVVP in the broader offset area. The offset site supports high quality NTGVVP. It is contiguous with larger areas of moderate to high quality NTGVVP to meet approvals for other projects under the EPBC Act. The condition of the NTGVVP area proposed to be offset is 60/100 based on the Habitat Hectare assessment completed by Biosis (2019). A rapid ground-truthing assessment of weed cover was undertaken by Ecology and Heritage Partners in February 2022 to review the weed cover, which remained relatively consistent with the Biosis assessment.</p> <p>The NTGVVP offset site Start area and habitat quality is based on (DSEWPac 2012b):</p> <ul style="list-style-type: none"> <li>• Site condition: 6/10. The site supports a diversity of native grasses (Wallaby-grass., Spear-grass, Tussock Grass and Kangaroo Grass, with at least a 50% perennial cover of native species, which meets the minimum threshold criteria for NTGVVP;</li> <li>• Based on a review of aerial photography, predictive mapping of native vegetation extent, and knowledge of NTGVVP habitat in the region, the proposed offset site is connected to other patches of NTGVVP within the broader property. There are also isolated patches of high-quality Plains Grassland native vegetation within 10-kilometres of the site, including in road reserves along Cressy-Shelford Road to the north of the site and within private property to the south of the site. Threats that occur to the community within and adjacent to the offset site include the loss of suitable habitat through land clearance (cropping), disturbance (heavy grazing/slashing) and weed incursion.</li> </ul>

Offset Criteria	Response
	<p>Specifically, the habitat (site condition) and NTGVVP community extent within the surrounding landscape at the offset site are the most influential factors contributing to offset site quality. The habitat is moderate-high quality for NTGVVP. This is based on the patch identified as NTGVVP, having a moderate diversity of native grasses and herbs with minimal weed incursion. The definition for NTGVVP of sufficient quality for listing has been based on information provided in the <i>Nationally Threatened Ecological Communities of the Victorian Volcanic Plain: Natural Temperate Grassland &amp; Grassy Eucalypt Woodland</i> (DSEWPaC 2011). The combination of habitat factors presented has resulted in the starting quality of NTGVVP habitat being assessed at 6/10.</p>
<p><b>Risk of loss without offset</b></p>	<p>5%. There are currently no formal protection mechanisms that protect the ecological values present within the offset site. Without protection and ongoing management as an offset site, there is uncertainty regarding the future condition of the land.</p> <p>As the broader offset property is zoned Farming Zone (FZ), there is a risk that the NTGVVP will be lost by intensified agricultural use (e.g. cropping or intensified grazing). Inappropriate grazing regimes will result in excessive pugging within the grassland and inhibit reproduction of native flora due to overgrazing during the flowering period, reducing species diversity and increasing opportunities for weed invasion. Intensive agricultural activities such as ploughing, sowing pasture grasses, fertiliser application and/or tilling the soil is likely to result in complete loss of the NTGVVP population. The risk posed by intensification of agricultural use is evidenced by cropping activities in surrounding the offset site. A protective covenant provides legal protection, averting this risk of losing the NTGVVP community within the site.</p>
<p><b>Future quality without offset</b></p>	<p>5/10. Prior to European settlement, it is highly likely that the NTGVVP within the offset site was a higher quality grassland patch, not fragmented by roads, fences or cropped areas and relatively weed free. As the region has been exposed to agricultural use, more roads and land use practices have been introduced, resulting in an increase in weeds within the native grasslands, and fragmentation of patches into smaller reserves. Changing water regimes and introduction of livestock also contribute to a decline in condition. Negative impacts from continued farming use into the future are likely to result in further declines to the native grassland, as new weeds are introduced from the adjacent road and livestock entering the property, ability for the landholder to graze any livestock (i.e. introduce cattle), and intensely graze the site without conservation considerations (i.e. biomass management). In addition, an unused road reserve occurs to the east of the offset area, which if developed, poses an additional threat of weed spread into the grassland if unmanaged.</p> <p>Given the current land use (i.e. grazing) at the proposed offset, the absence of a security arrangement and lack of conservation management of the understorey specifically for NTGVVP, it is likely that the habitat will decline in quality in the future from an initial quality score of 6 to 5.</p> <p>Toowoomba Canary-grass is a perennial introduced species and had a weed cover of approximately 30% within the NTGVVP patches. This weed requires management, to ensure it does not further encroach/out-compete native grasses. Flatweed is also present in areas on the site and can cover much of the ground during wet seasons.</p> <p>Without strategically designed grazing strategies, stock can overgraze/undergraze NTGVVP, leading to a shift in introduced species dominance and/or, preventing host plants from recruiting. Grazing can lead to an increase in the cover of Flatweed when not managed in a way that considers conservation, therefore without the protection and incentive to manage the conservation values within the land, the cover of Flatweed (in addition to Toowoomba Canary-grass) is likely to result in a decline in quality.</p> <p>Rabbits were recorded within and nearby the offset site. Without increased management, rabbits are likely to prevent the recruitment of host plants, leading to a decline in the NTGVVP community.</p>

Offset Criteria	Response
<b>Risk of loss with offset</b>	<p>1%. There is a 1% chance that the offset site will be lost with the offset being protected and managed in accordance with the OMP placed on-title. There is a low level of risk given the evidence of recent voluntary conservation works (weed control) within the site, these works have proved to be successful, demonstrating the landholder's capability in managing threats. Further, the location of an adjacent offsets site (OMPs for the adjacent site currently being prepared), further consolidates habitat within the property.</p>
<b>Future quality with offset</b>	<p>6/10. The offset site is to be secured and managed for conservation purposes in perpetuity, with implementation of a management plan incorporating weed control, biomass control and regular monitoring, aiming to enhance native biodiversity. The quality of NTGVVP will be improved by actions outlined in Section 5.5, and include:</p> <ul style="list-style-type: none"> <li>• Reducing weed cover, targeting perennial grass weeds which outcompete plants that constitute NTGVVP;</li> <li>• Control all high threat weeds (&lt;20% cover), reducing competition for the NTGVVP community;</li> <li>• Reducing rabbit populations, and thereby reducing the threat posed to on-going survival and establishment of host plants by overgrazing from exotic herbivores; and,</li> <li>• Ensuring that grazing regimes by stock is undertaken in a manner sensitive to the requirements of NTGVVP.</li> </ul> <p>Proposed management actions are above and beyond both current and past management of the site. While the site is currently grazed, and has been historically grazed, the grazing periods are not managed in consideration of biodiversity values and NTGVVP. Further, while some weed and rabbit control has occurred on the property, the level of control committed under this management plan is well beyond current management.</p> <p>Based on the increased management of the site, as outlined within Section 5.5 of this plan, which as outlined above are beyond past and current management, the habitat quality of the offset site is likely to be significantly improved beyond what the site would be without implementation of the offset.</p> <p>Largest changes in community quality are likely to be represented by site condition. Performance indicators that demonstrate the success of management actions aimed at improving the future quality of the offset site are provided in Section 5.5.2 and Section 5.6.</p>
<b>Confidence in result</b>	<p>90%. Confidence in applied scores is relatively high due to careful consideration of the offset site, existing condition and evidence of the landholder's capability to manage threats through recent conservation works. The site will be protected through a Section 173 Agreement under the <i>Planning and Environment Act 1987</i> with Council. Council undertakes a quality assurance process for all offset sites to ensure the landowner agreements address the management commitments in the plan.</p> <p>Further, the site will be secured via a Trust for Nature covenant under the <i>Victorian Conservation Trust Act 1972</i> within 12 months post approval of the referral.</p>
<b>% of impact offset off-site</b>	100.13%

## 5 OFFSET IMPLEMENTATION

### 5.1 Management Objectives and Strategy

The offset site will be managed for the purposes of conservation and will involve physical protection of the GSM habitat and NTGVVP, the control of pest animals and environmental weeds, biomass reduction and general maintenance of the character and quality of the native vegetation, consistent with its historic context.

The offset site will be protected in perpetuity via a Section 173 Agreement (Table 4) and a Trust for Nature Covenant. The Section 173 agreement will be an interim mechanism until the Trust for nature covenant is placed on title (within 24 months of the EPBC Act approval for the project). This OMP will be attached to the on-title agreement and require the landowner to manage the offset site in accordance with the requirements detailed herein. Security, management and monitoring responsibilities are summarised in Table 5. This OMP relates solely to the 30 hectares of GSM habitat and 33 hectares of NGTVVP and includes actions related to the ongoing monitoring and management of the ecological communities.

**Table 4.** Security and Management Responsibility

Offset Security and Management Responsibility	Parwan to Melton Pipeline
Who is liable/responsible for meeting offset requirements?	Greater Western Water
Type of security mechanism	Interim: Section 173 agreement Future: Trust for Nature Covenant
Agreement or Planning Permit Number (ID)	TBC/2020 EPBC 2018/8260
Date 10-year offset management to commence	Upon approval of this OMP by DAWE
Date 10-year offset management expires	10 years following approval of this OMP by DAWE
Offset site management responsibility (i.e. Landowner, Authority Name)	Landowner
Offset Monitoring Responsibility (i.e. Responsible Authority)	Landowner, Greater Western Water, DAWE, TfN

### 5.2 Compliance with Offset Principles

The 'Environmental Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy' (DSEWPaC 2012a) outlines a set of principles that a proposed offset must meet in order to be assessed under the referral process. These principles are detailed in Section 7 of the Preliminary Documentation (Ecology and Heritage Partners 2020b), along with how the proposed offset site meets these requirements.

### 5.3 Offset Targets

The EPBC Act offsets policy (DSEWPac 2012a) provides the details of the offsetting approach for Matters of NES; this includes an Offset Assessment Guide and offset calculator.

The Offset Assessment Guide offset calculator has been completed to determine the area of offset required to adequately compensate for the removal of GSM habitat and NTGVVP at the development site. The Offset Assessment Guide offset calculator is provided in Appendix 2, and a justification for the scores given in Section 4.2.

### 5.4 Ongoing Land-use Commitments

The offset site will be managed to facilitate an improvement in the quality of remnant NTGVVP vegetation community and maintenance of GSM habitat 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.

From the commencement of the agreement, the landowner agrees to undertake the following long-term (ongoing) management objectives in perpetuity for the 33 hectares of land:

- Retain and manage all native vegetation as directed by this OMP;
- Exclude domestic stock, except as permitted by this OMP;
- Maintain woody weeds to < 1 % cover;
- Maintain cover of exotic grassy weeds to levels described in Section 5.5.4;
- Within the GSM habitat, maintain herbaceous weed cover at the current level of approximately 45% (predominantly Flatweed);
- Within the 33 hectares of NTGVVP offset area, maintain herbaceous weed cover at the current level of approximately 45% (predominantly Flatweed);
- Achieve a VQA weed score of at least 6/15 (i.e. 25-50% cover and less than 50% high threat weeds) within the NTGVVP offset area at the end of the 10 Year management;
- Maintain a VQA weed score of at least 6/15 (i.e. 25-50% cover and less than 50% high threat weeds) within the GSM offset area at the end of the 10 Year management;
- Implement actions to control any new and emerging weeds identified during Detailed Vegetation Monitoring events (Section 8.2) and maintain to < 1% cover;
- Control rabbits; and
- Undertake biomass management (grazing).

Of note, weed invasion and inappropriate grazing regimes are two of the main demonstrated threats to NTGVVP communities and GSM populations. This OMP addresses these demonstrated threats by including management actions aimed at reducing the likelihood of weed invasion, the preparation of an appropriate grazing regime sensitive to the values that exist in the offset site and surrounds.

Due to the nature of an in-perpetuity commitment, at times weed levels may exceed the listed objectives due to unknown weed threats in the future. The landowner will endeavour to control weeds across the



offset site at the agreed levels, however, it is acknowledged that weed cover will fluctuate on temporal and spatial scales due to seasonal conditions (e.g. Flatweed) over the life of the approval and beyond.

## 5.5 Management Actions

Implementation of the management actions (excluding third party monitoring) outlined within this OMP is the responsibility of the landowners as detailed in the MoU prepared between Western Water and the landowner, however, direct management responsibility may be delegated to a designated site manager and/or managing ecologist with annual reports submitted to Council (until the TfN covenant is registered on title), Trust for Nature, DAWE and the Proponent (Western Water). Specific monitoring and reporting requirements are detailed in Section 8.

Management actions detailed in this OMP will commence from the date the offset site is secured on title (i.e. registration of the Section 173 Agreement). A breakdown of management actions required over the mandatory 10-year active management period is shown below (Table 10). Following the 10-year active management period, the landowner will continue to manage the offset site as specified in this plan, such that:

- By Year 10 of management, the ongoing weed control across the offset site will have the objective to reduce weed levels within the NTGVVP offset area and maintain weed levels for the remaining areas of GSM habitat based on weed levels upon inception of this plan (Section 5.5.5). Following Year 10 of this plan, the weeds within the site will be maintained at the improved state achieved at Year 10;
- GSM habitat is maintained through control of weeds and biomass control action and at minimum, maintaining the current stocking rates, and;
- NTGVVP community is improved through an increase in vegetation condition.

Funding for undertaking security, management and monitoring actions prescribed in this OMP has been agreed between the landowner and the Approval Holder, in accordance with the signed MoU between both parties.

The management and monitoring obligations are limited to those listed in this plan as approved by DAWE, the Approval Holder and Trust for Nature.

Any proposed uses or development of the offset site which conflict with the landowner's commitments are not permitted under this plan. The ecological values of the offset site must be considered with all management actions and all contractors entering the offset site need to be made aware of its ecological values and potential implications of this plan.

The management and monitoring actions detailed in this OMP have been development in accordance with the following legislation and/or policies:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- *Flora and Fauna Guarantee Act 1988* (FFG Act);
- *Catchment and Land Protection Act 1994* (CaLP Act);
- Commonwealth's Threat abatement plan for competition and land degradation by rabbits (DoE 2016);



- Commonwealth's Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (DAWE 2017);
- Commonwealth Listing Advice on *Natural Temperate Grassland of the Victorian Volcanic Plain* (TSSC 2012c);
- Approved Conservation Advice for the *Natural Temperate Grassland of the Victorian Volcanic Plain* (TSSC 2008);
- Significant impact guidelines for the critically endangered Golden Sun Moth (*Synemon plana*). Department of the Environment, Water, Heritage and the Arts (DEWHA 2009a); and,
- Approved Conservation Advice for *Synemon plana* (golden sun moth). Canberra: Department of the Environment. Department of Environment (DoE 2013);

The management and monitoring obligations are limited to those listed in this Plan as approved by DAWE, the Approval Holder and Trust for Nature.

### 5.5.1 Golden Sun Moth

This management plan has been formulated to address several priority actions outlined within the Conservation Advice for the species (DoE 2013):

- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate and/or secure inclusion in reserve tenure if possible;
- Retain and protect natural grassland remnants within the known distribution of the species;
- Monitor known populations to determine the species' status;
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary;
- Identify populations of high conservation priority;
- Control invasions of weeds and pasture species, and consider the impact of herbicide use in habitat; where possible use methods that directly target weeds such as spot spraying to minimise the adverse impact on GSM;
- Manage the amount of grazing to minimise any direct adverse effects on GSM or its habitat. The management regime should include some focus on grazing and fire, as combining the two in the wrong way (e.g. heavy grazing soon after a fire) is particularly damaging to perennials; and
- Engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions as listed in this plan.

#### 1.1.1.1 Existing Threats

The main threats to the offset site 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 that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass. High threat

weeds are defined as those introduced species (including non-indigenous natives) with the ability to outcompete and substantially reduce one or more indigenous life forms in the longer terms assuming on-going current site characteristics and disturbance regime.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 2.

Maintenance and protection of the offset site will be achieved by:

- Stock-proof fencing around the boundary of the offset site and low impact dividing fencing to allow more controlled grazing;
- Weed control through active management;
  - Maintaining all woody environmental weeds to < 1% cover;
  - Maintaining cover of exotic grass to approximately 450% cover;
  - Controlling herbaceous weed cover to levels outlined in Section 5.5.5.2.
- Biomass control through a combination of pulse grazing in dry years and light grazing of domestic stock (sheep only) in wet years with stock generally (depending on the season) excluded from 1<sup>st</sup> October to 31<sup>st</sup> January;
- Controlling pest animals, particularly rabbits and foxes; and
- Managing native species understorey diversity and recruitment.

#### 1.1.1.2 Threats specific to Golden Sun Moth

The key threats to Golden Sun Moth, as identified in the Significant Impact Guidelines for the species are outlined below (Table 5) (DEWHA 2009) and addresses the management action that will be applied to the offset site to mitigate the threat. Further details regarding each management action is provided in Section 5.5.2 to Section 5.5.6, and a table of recommended management actions for each year in Section 5.6.

**Table 5.** Key threats to Golden Sun Moth

Key threat to GSM (DEWHA 2009)	Mitigation measure
<b>Removal of vegetation</b>	Habitat for Golden Sun Moth within the offset site will be protected by fencing (Section 5.5.4) and will be protected through a temporary Section 173 Agreement and a perpetual Trust for Nature Covenant. Without this protection, the site may be inadvertently cropped or cleared.
<b>Inappropriate fire regimes</b>	Maintain biomass to reduce fuel loads across the site (Section 5.5.6). In addition, wildfires have occurred in the past at the offset site, which have not had a significant impact on Golden Sun Moth as their current population numbers remain high. The biomass level monitoring will aid in the prevention of a damaging wildfire through fuel reduction management.
<b>Weed invasion</b>	One main weed, Toowoomba Canary-grass, poses a threat of invasion and reducing the native grasses present within the offset site. Toowoomba Canary-grass, along with other key weed species including the declared noxious weed Serrated Tussock <i>Nassella neesiana</i> will be prioritised for control, with target levels set to be achieved within the 10-year management plan (Section 5.5.5). Without the control of

Key threat to GSM (DEWHA 2009)	Mitigation measure
	<p>Toowoomba Canary-grass, it is likely the species would dominate the site, and reduce the habitat available to Golden Sun Moth. Therefore, efforts will be focused on reducing the cover of Toowoomba Canary-grass across the offset area.</p> <p>There is a substantial population of Flatweed on the site. It is acknowledged that spot spraying of Flatweed can be difficult due to the wide area it covers at certain times and the potential impact on other herbaceous species, and this is best controlled by grazing.</p>
<b>Overstocking (causing loss of habitat plants, changes to soil and plant structure or increase nutrient load)</b>	<p>Fencing will be maintained around the offset site, to ensure livestock grazing is managed within the offset site. The division of the site with low impact fencing into smaller paddocks will allow greater grazing control. When grazing is permitted, numbers will be monitored to ensure biomass levels and native grasses are not heavily impacted, and that the grazing does not impact upon plant structure within the offset site. If negative impacts from grazing are observed, livestock will be removed (Section 5.5.6).</p> <p>Without grazing control, the site may experience overgrazing where native species are damaged and inappropriate grazing occurs (i.e. late spring) affecting the seed distribution and regeneration of the native grassland, and ultimately reducing the amount of available Golden Sun Moth habitat.</p>
<b>Changes to agricultural practices (e.g. ploughing, overgrazing)</b>	<p>The offset site will be fenced and ultimately be protected through a Trust for Nature covenant. The landholder will commit to managing the site for conservation and will not engage in cropping within areas set aside for the offset. Grazing will be permitted with conditions, such as not during wet periods or when biomass levels are low.</p> <p>The protection of the offset site will secure the land for conservation purposes, which does not permit ploughing and limits grazing. Without this protection, the site is at risk to either threat.</p>
<b>Rank growth (loss of inter-tussock spaces)</b>	<p>Loss of inter-tussock space may occur if Toowoomba Canary-grass and noxious weeds Serrated Tussock-grass are not controlled and biomass across the offset site is not managed. General biomass will be managed through pulse grazing (Section 5.5.6).</p>
<b>Soil compaction</b>	<p>Soil compaction may occur as a result of grazing and will be monitored during and after grazing events. If soil compaction is evident, then grazing numbers will be reduced. This will be monitored in conjunction with the biomass control (Section 5.5.6)</p>

### 5.5.2 Natural Temperate Grassland of the Victorian Volcanic Plain

This management plan has been formulated to address several priority actions outlined within the Conservation Advice for the community (DSEWPaC 2011):

- To protect and manage the NTGVVP community to maintain its natural geographical range.
- Protect and prevent impacts to habitat critical to the persistence of the community in the planning, construction and post construction phases of developments.
- Negotiate and implement conservation agreements or reserves for NTGVVP on privately owned land which do not allow high intensity grazing, cropping and pasture improvement activities and involve ongoing management.
- Identify, control and reduce the spread of invasive grasses including escaped pasture species.

- Work with fire authorities and private landholders to plan and undertake any burns proposed in areas of habitat critical to the persistence of the community in a way that will maintain or improve the habitat.

### 1.1.1.3 Existing Threats

The main threats to NTGVVP within the offset site 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 that are present within the surrounding area, weed invasion in general and the accumulation of ground cover biomass.

This OMP details the prescribed actions and outlines the relevant timing for implementation. These actions will be applied to the entire offset area identified in Figure 2.

Maintenance and protection of the offset site will be achieved by:

- Stock-proof fencing around the boundary of the offset site and low impact fencing dividing the site into smaller more manageable paddocks;
- Weed control through active management;
  - Ensuring that new and emerging woody weeds do not exceed < 1 % cover;
  - Controlling all weeds to reduce cover (Section 5.5.4);
- Biomass control through light grazing of domestic stock (sheep only) with stock generally excluded from 1st October to 31<sup>st</sup> January;
- Controlling pest animals, particularly rabbits and foxes; and
- Managing native species understorey diversity and recruitment.

### 5.5.3 Fencing and Access

An existing permanent stock-proof fence currently exists around the perimeter of the broader conservation area, where additional offset sites occur. This fence includes several gates that provide dedicated access points for farm vehicles into the offset area for management purposes. Vehicle movements through grasslands will be avoided on hot and windy days due to the risk of fire (see risk assessment and actions in Section 3). The offset site and broader property remain private property and access or disturbance to the offset site by unauthorised persons is prohibited. The existing access and security (locked gates) arrangement is adequate to service the access requirements for management of the offset site.

Permanent fencing will be placed around the 33 hectare offset site and low impact six wire and star picket fences will divide the site (Figure 2) to allow for controlled grazing across sections of the offset site, with the waterpoint(s) to be located within an exclusion zone within the conservation area. Fencing along the southern border (adjacent to the stone wall) will be constructed in a way to prevent any damage to the wall and allow sheep to graze along the edge for weed control.

Table 6 below outlines the management actions, performance indicators, corrective actions and completion criteria for the Fences and Access Management Actions. The overall aim is to ensure the offset site is

adequately protected from threats of unauthorised vehicle access and over-grazing by livestock, and that the area is clearly delineated for management and monitoring purposes.

**Table 6.** Management actions and completion criteria summary for fences and access.

Management Action	Performance indicator	Corrective Action (where required)	Completion criteria
Maintain existing perimeter fence of the broader conservation area to control stock and vehicle access.	Monitoring and management reports detail any damage and repairs to fence	Damage observed to fence is repaired prior to next monitoring event	Stock proof fence maintained in good condition around perimeter of broader conservation area
Establish offset area boundary fence to manage stock access within offset site.	Monitoring and management reporting ensure location of boundary fence remains in correct location and confirm that stock access points are not compromising the condition of native vegetation	Boundary fence position corrected prior to next monitoring event and stock access points altered to prevent damage to native vegetation	Boundary of offset area clearly defined, and stock proof fence established to restrict grazing access

#### 5.5.4 Weed Control

##### 5.5.4.1 Objectives

The objective of weed control within the offset site is to reduce the cover of exotic vegetation and improve the existing quality of Golden Sun Moth habitat and NTGVVP. This will be achieved through a combination of direct weed control methods and controlled light grazing (to limit opportunities for weed establishment and seed set in exotic flora).

##### Woody weeds

No woody weeds have previously been recorded within the offset area. Monitoring for new and emerging woody weeds will be conducted by a qualified ecologist during detailed Vegetation Monitoring (Section 8.2) for the term of the OMP. Any new and emerging woody weeds observed will be controlled immediately following identification.

##### Herbaceous weeds

The aim of management is to reduce cover of herbaceous weeds below current levels. Current herbaceous weed cover within the offset site is estimated to be approximately 40% throughout the offset area. Weeds listed in Table 7 were found within offset site. These weeds will be controlled and monitored each year to ensure their cover is reduced, with a VQA weed score of 6/15 (25-50% cover) maintained by the end of the 10-year management period within the NTGVVP area and 6/15 (25-50% cover) in the GSM area. Weeds will be treated using methods listed in Table 8 before the plant has flowered and set seed. Impacts to indigenous plants will be minimised to the extent possible during treatment of weeds.

Annual weeds within the offset site are not considered to be a significant threat and will be managed using grazing and spot spraying to reduce their prominence.

Weed control methods will largely comprise targeted spot spraying with appropriate herbicides, grazing and physical removal, where appropriate. Spot spraying will be undertaken during spring and early summer, with a focus on killing weed plants prior to seed set. Care must be taken when spraying herbicide to ensure that the poison has a limited impact on native vegetation in the local application area to minimise non-target damage. A dye will be used in the spray to mark where spraying has occurred. Spot spraying will not occur on high wind days or in close proximity to threatened flora without protective measures in place (i.e. physical shielding).

In addition to spot spraying, a tractor or quad bike with an attached spray gun nozzle can be employed to target areas of high weed cover or in areas with dense weed cover restricting access. Tractors can also be used to move chemical in bulk to assist spot spraying teams. Biomass control is also considered to be an effective method for controlling and reducing weed levels and will include controlled livestock grazing (sheep).

The composition and distribution of vegetative cover across the offset site is likely to change over time in response to seasonal conditions or pulse grazing. Therefore, weed cover and species will be monitored annually (Section 8.1) and management activities adapted where necessary to ensure the desired outcomes outlined in this OMP are achieved.

### New and emerging herbaceous weeds

Monitoring for new and emerging herbaceous weeds will be conducted by a qualified ecologist during detailed vegetation monitoring (Section 8.2) as well as on an ad hoc basis by the landowner throughout the year (during site management and habitat monitoring) for the term of the agreement. Any new and emerging weeds will be maintained to not exceed <2% cover. Note that several weeds occur in the surrounding paddock that may appear in the proposed offset area during some monitoring events in low numbers, including Paddy Melon *Cucumis* sp., Rye *Lolium* sp. Bathurst Burr *Xanthium spinosum* and Dock *Rumex* sp. These will be treated/managed to prevent establishment.

Any other significant environmental weeds (i.e. CaLP Act listed species or species on the WONS list) identified within the broader property during monitoring will also be controlled. The land manager may consult with a qualified ecologist regarding appropriate control techniques for any new or emerging weeds identified within the offset area. It is important to note that it is understood that the land manager may not have the expertise to identify new and emerging weeds and therefore any new weed species will be identified during the third-party habitat assessments and population monitoring.

**Table 7. Herbaceous weeds to be controlled within 33 ha offset area – method and timing**

Common name	Scientific name	% total cover at inception	Method	Timing
Annual Grasses	<i>Hordeum</i> spp., <i>Avena fatua</i> , <i>Aira</i> spp., <i>Briza</i> spp., <i>Bromus</i> spp.	25%	Controlled pulse crash grazing by sheep to limit opportunities for weed establishment (Section 5.5.7); spot spraying of herbicide.	Early Spring to avoid GSM flying season

Common name	Scientific name	% total cover at inception	Method	Timing
Flatweed	<i>Hypochaeris radicata</i>	Up To 45%	Pulse-grazing and targeted spraying with appropriate herbicide. <b>See below for further comments on Flatweed</b>	Early Spring to avoid GSM flying season Spot-Spray: Spring and early summer
Squirrel-tail Fescue	<i>Vulpia myuros</i>	25%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Serrated Tussock	<i>Nassella trichotoma</i>	<5%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Toowoomba Canary-grass	<i>Phalaris aquatica</i>	30%	Targeted spot spraying with appropriate herbicide. Pulse-grazing.	Spot-Spray: Spring and early summer; Graze: early Spring to avoid GSM flying season
Spear Thistle	<i>Cirsium vulgare</i>	<5%	Hand chip, or targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer
Chilean Needle-grass	<i>Nassella neesiana</i>	<5%	Targeted spot spraying with appropriate herbicide.	Spot-Spray: Spring and early summer

## Flatweed

Flatweed *Hypochaeris radicata* is a common herbaceous weed present in relatively high cover within the offset area. It is an herbaceous perennial native to northern Africa and Europe. It is considered naturalised in Australia and is one of the most prevalent weeds in the temperate zones of Victoria, NSW and Tasmania, although generally not a high threat weed. Flatweed is up to 80 cm tall with a rosette of lance-shaped leaves covered in short hairs. It is multi-stemmed with bright yellow flowers. The species produces large quantities of wind-dispersed seeds and a long taproot, which facilitate rapid spread into new areas and long-term persistence. It is often found in urban settings (e.g. gardens, lawns, footpaths), disturbed areas (e.g. roadsides, pastures) as well as natural habitats, including native grasslands and conservation reserves.

Recommended control techniques for Flatweed include a combination of spot-spraying, mechanical removal and light grazing (HerbiGuide 2021). Mechanical control can be undertaken for small infestations by removing the entire plant. Care must be taken to ensure the long taproot is removed to several inches below the root crown, as the plant can re-sprout from remnant tissue. While most effective when undertaken in early spring as soon as the leaves have appeared, this strategy can be used year-round. Herbicides for broadleaf weeds (e.g. dicamba, MCPA, glyphosate) can also be applied for infestations of larger areas. No current known biological control agents are available in Australia for the plant. Grazing is not recommended as the sole approach, as this can promote Flatweed in some circumstances (HerbiGuide 2021).

At the time of the most recent site visit (February 2022), Flatweed was estimated to cover up to 45% of the overall offset area. The cover of the species is known to fluctuate seasonally and it can be hard to predict its abundance each year. This is a common issue within grassland reserves and can make management efforts seem futile when viewed on a year by year basis, opposed to a more long-term overview.

The land-use commitments set out in Section 5.4 set to maintain a VQA weed score of 6/15 in the NTGVVP offset area, and 6/15 in the remaining GSM offset area by the end of the 10 Year active management period. Achieving this score is feasible for all species listed in Table 7, with the exception that Flatweed may be the outlier. It is proposed that future auditing of the offset site factor in the inherent difficulty that controlling Flatweed poses and whether or not it is an unusually wet period (as flatweed responds very well to wetter years), and recommends that auditors assess the overall trend of Flatweed cover within the offset site if it is the only factor affecting the weed cover targets.

If the management of the offset site is in accordance with the OMP (i.e. active management is being undertaken using methods recommended in the OMP or through reviewed adaptive management approaches), and Flatweed is showing a general decline in cover over the course of the active management, then it is suggested that this be viewed as sufficient in meeting the objectives of the OMP (in the instance that all other weeds meet or are on track to meet the land-use commitments).

### High Threat Weeds

High threat weeds referred to within this management plan follow the definition provided within the *Vegetation Quality Assessment Manual* (DSE 2004). High threat weeds are considered as those weed species listed within the relevant EVC (EVC 132\_61: *Heavier-soils Plains Grassland*) benchmark to have a “high impact” regardless of their invasiveness.

High threat weeds listed within the EVC benchmark applicable to the offset area are:

- Spear Thistle *Cirsium vulgare*
- Toowoomba Canary-grass *Phalaris aquatica*
- Yorkshire Fog *Holcus lanatus*
- Chilean Needle-grass *Nassella neesiana*
- Serrated Tussock *Nassella trichotoma*
- Bathurst Burr *Xanthium spinosum*\*

\*occurred in broader paddock outside of proposed offset area

### Spot Spraying

The application of herbicides is an effective and efficient control technique for a range of woody, herbaceous and grass weeds. The correct use and application of herbicides can provide targeted control of a range of species. However, all herbicides must be used in accordance with the manufacturer’s specifications and occupational health and safety policies.

Application methods for herbicides include spot spraying with a knapsack, dabbing of weeds in sensitive areas with a foam-tipped application device, rig spraying with a pump for larger areas, dabbing of cut stumps and injection of woody weeds.



Timing of the interval of spot spraying is dependent upon many factors such as plant age and growth seasons, plant stress levels and climatic factors. All these factors need to be considered when develop methodologies for the application of herbicides to ensure successful outcomes. Surrounding native plants' susceptibility to herbicides and ongoing uses of the treated areas must also be considered when choosing the right herbicide to be used in a weed control program, as some herbicides are residual and may persist within the soil for varying durations.

**Table 8.** Management actions and completion criteria summary for weed control in 33 ha offset area.

Management Action	Performance indicator	Corrective Action	Completion criteria
<p>Monitor offset site for weed cover and presence of new and emerging weeds.</p> <p>These inspections must be undertaken quarterly for each year of the OMP.</p>	<p>Date of monitoring event, observations and follow up actions presented in each annual report prepared for the OMP.</p> <p>Monitoring completed by land manager during management activities and ecologist during monitoring events</p>	<p>Missed reporting periods to be captured as soon as possible.</p>	<p>Detailed log of weed cover included in each report submitted as a part of the annual reporting requirement for the OMP.</p>
<p>Reduce current cover of <b>high threat herbaceous weeds</b> to 20% cover or less within the offset site through methods such as spot spraying and pulse grazing.</p>	<p>Monitoring and management reports detail percentage cover of high threat herbaceous weeds observed at each assessment, and management technique used to control spread.</p>	<p>Review management techniques and adjust method if cover is not decreasing.</p>	<p>Cover of high threat herbaceous weeds does not exceed 20% cover of the offset site (VQA weed score of 6/15 achieved for NTGVVP area and 6/15 for remaining GSM area)</p>
<p>Monitor for and manage new and emerging <b>high threat herbaceous weed</b> cover to &lt;1%</p>	<p>Monitoring and management reports detail new and emerging high threat herbaceous weeds observed, and management techniques used to control.</p>	<p>New and emerging high threat herbaceous weeds observed during monitoring events that remain untreated are flagged with land manager for removal and removed before next monitoring event.</p>	<p>Cover of new and emerging high threat herbaceous weeds is &lt;1% within the offset site.</p>
<p>Control herbaceous weeds</p>	<p>Monitoring and management reports detail current cover and control techniques used</p>	<p>Review and adjust weed control methods if herbaceous weed cover increases above baseline levels (currently 40%).</p>	<p>Cover of herbaceous weeds is reduced to maintain VQA weed score of 6/15 for NTGVVP area and 6/15 for remaining GSM area</p>
<p>Monitor for new and emerging <b>woody weeds</b> and control all occurrences.</p>	<p>Monitoring and management reports detail new and emerging woody weeds observed, and management techniques used to control.</p>	<p>New and emerging woody weeds observed during monitoring events that remain untreated are flagged with land manager for removal and removed before next monitoring event.</p>	<p>No woody weeds present within offset site at end of 10 Year OMP.</p>

## 5.5.5 Pest Animals

### 5.5.5.1 Objectives

The objective of pest animal management is to control pest animals (e.g. rabbits, foxes) within the offset site, as required, to minimise negative impacts to the Plains Grassland communities, which provides habitat for GSM and NTGVVP. The *Catchment and Land Protection Act 1994* lists rabbits and foxes as established pest animals and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land.

No active rabbit warrens were observed within the Offset area. However, they are known to occur within the local area. An integrated approach in accordance with BushBroker Information Sheet 7 - Standards of Management – Rabbits, will be followed which will involve fumigation, hand collapsing of burrows and baiting. Any rabbit carcasses found within the offset site will be removed to prevent poisoning of native predators. These actions are in accordance with the Commonwealth’s *Threat abatement plan for competition and land degradation by rabbits* (DAWE 2016).

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 collapsing.

Foxes are a threat to native fauna and must be controlled if identified within the offset site. If identified, fox dens will be destroyed through fumigation and hand collapse.

To reduce the likelihood of pest animals inhabiting the offset site on a regular basis, any artificial piles of logs and rocks that may be used as harbour by pest animals will be removed or dispersed.

Both rabbits and foxes will be controlled as detailed below (Table 9).

**Table 9.** Pest animals to be controlled – species, method and timing

Common name	Method	Timing
Rabbits	Baiting. When baiting collect and dispose of carcasses to prevent poisoning of native predators.	Controlled throughout the year if detected during a routine landowner inspection
Rabbits and Foxes	Fumigation and collapse of rabbit burrows and fox dens if identified. Remove or disperse surface harbour.	Controlled throughout the year if detected during a routine landowner inspection
New and Emerging pest animals	Monitor and control	Immediately, if a new threat is identified during a routine landowner inspection

### 5.5.5.2 Actions

- Land manager to undertake and document routine inspections for the presence of pest animals. These inspections must be taken at a quarterly frequency at a minimum.
- Control and seek to locally reduce pest animals using appropriate control techniques, including poison baits, warren fumigation and collapsing, or similar methods, without soil disturbance; and

- Fumigate rabbit warrens according to best practice management techniques. Fumigation works will be conducted by the landowner or a suitably qualified operator where rabbit or fox activity is identified.

### **5.5.5.3 Performance Indicators**

- Evidence of routine pest animal inspections presented in the annual report each year. Apply pest animal control methods in response to observations of the routine inspections.
- Reduction in the abundance of pest animals observed during routine pest animal inspections when compared to baseline rabbit abundance survey, and no detectable impacts to the native grassland community;
- All monitoring and management activities are effectively documented; and
- No active rabbit warrens present within the site at Year 10 of the OMP.

### **5.5.5.4 Adaptive Management**

- If pest animal management fails to achieve a reduction, or effectively control rabbit or fox numbers, or if impacts to NTGVVP community and/or GSM habitat are attributable to an increase in pest animals activities, a review of the current procedures and management measures will be undertaken and modified as required;
- Increase active monitoring of pest animal activity;
- Incorporate additional control measures (i.e. spotlighting and shooting); and
- Improve existing fencing of broader offset property to exclude pest fauna.

## **5.5.6 Biomass Control**

### **5.5.6.1 Objectives**

The objective of biomass control within the offset site is to promote and maintain floristic diversity, and inter-tussock spaces for germination and recruitment of native flora associated with the NTGVVP community. This will also have positive outcomes for managing GSM habitat. In addition, these actions will improve habitat quality for existing flora present within the offset site and assist with minimising the growth of weeds.

Biomass management is essential to enhance the ecological values throughout the offset site, including the maintenance and improvement of GSM habitat and NTGVVP. Biomass management is also required to maintain inter-tussock spaces and prevent excessive competition to grassland forbs. Biomass control will aim to maintain approximately 20% of bare ground or inter-tussock space to allow sufficient space for recruitment of herbs and grasses. If GSM or NTGVVP offset area is found to be less than 20% bare ground then biomass reduction must be implemented at the earliest possible opportunity (with consideration of seasonality in order to minimise risk to ecological values, life and assets).

The current grazing regime and historical land use is not considered to have an adverse impact on the NTGVVP community and/or GSM habitat, and given that native vegetation has persisted across the property, it is considered an appropriate method for managing biomass.

## Pulse Grazing

A detailed study has been undertaken on the ecological impacts and benefits various grazing regimes on grasslands within the property, in addition to similar properties (Mavromihalis *et al.* 2013). It was concluded that a period of grazing exclusion may be beneficial for enhancing conservation values of grasslands. Further, exclusion of grazing during spring (September-November) is most beneficial, however, due to seasonal variation in vegetation composition, fixed grazing strategies were considered inappropriate, as they do not allow for temporal fluctuations. For example, in occasional years, excluding grazing during summer, rather than spring, may be beneficial in controlling annual grasses following particularly heavy spring rains; although, grazing during spring every year may lead to a decline in species richness. As such, the grazing regime within this OMP is to generally exclude stock during spring, however, seasonal variation to this period may be required in order to adapt to annual variation in vegetation composition. However, grazing during spring may not occur during more than two consecutive years; this aims to achieve a balance between having sufficient flexibility to respond to seasonal variation in plant growth and mitigating risks associated with spring grazing over extended periods.

In discussions with the Landowner it is recommended that in wet years where large numbers of sheep might cause substantial pugging damage, it is preferable to graze with lower numbers and lightly graze through winter to prevent increases in weeds and biomass to uncontrollable levels, than to have no grazing at all. The logic being this land has been grazed all year round since sheep arrived in the Western District.

Grazing will be undertaken in a controlled manner following the grazing management plan detailed in Table 10, to ensure that biomass accumulation control within the offset site is consistent with the standards for management of ecological grazing provided by DELWP (DSE 2009). 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 prohibited within the offset site at all times.

Grazing will occur over a short duration and exceed the standard stocking rate to prevent selective grazing within the offset site. The maximum length of pulse grazing is four weeks with at least two weeks rest between cycles.

Livestock (sheep) may be permitted into the offset site for control of herbaceous/grassy weeds and biomass management under this agreement, with grazing to be generally excluded between 1<sup>st</sup> October and 31<sup>st</sup> January (see Section 5.5.7 for further details on stock exclusion periods).

**Table 10.** Grazing Management Plan within the offset site.

Grazing Requirement	Targets
<b>Period where grazing by domestic stock is not generally permitted</b>	October 1 to January 31 annually in perpetuity. However, periodic grazing, including between October and January may be required in order to adapt to annual variation in vegetation structure and composition.
<b>Pulse grazing cycles required</b>	3 (minimum). This is dependent site and seasonal conditions, in that the offset site will not be grazed if there is a risk of adverse impacts to native vegetation and habitats. Wetter years may require a different approach to achieve biomass reduction
<b>Minimum rest from grazing between pulse grazing events</b>	2 weeks

Grazing Requirement	Targets
Maximum continuous pulse grazing event	4 weeks
Biomass management targets	Aim for total vegetation cover of no greater than 80% after grazing
Target inter-tussock space	Minimum of 20% of total offset site cover in areas where tussock grasses exist.

Stock must be removed should total vegetation cover fall to or below 70%. Stock pens and heavy vehicle traffic must be confined to the areas outside that covered within this OMP. Following any high rainfall events, stock will be removed or the numbers reduced to light grazing from the offset site immediately.

### Burning

The NTGVVP community would have historically been subjected to natural burning regimes due to its general location. As such, it is considered that an appropriate ecological burning regime will appropriately control biomass and enhance and promote the maintenance of species diversity within the offset site. 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 that which occur within, and directly adjacent to the offset site.

It must be noted that biomass management through ecological burning is not a compulsory component of this OMP.

It is noted that a population of Striped Legless Lizard occur within the broader offset area, with the potential to occur within the proposed offset site. **In order to avoid impacting Striped Legless Lizard, it is crucial that any prescribed burns are low-intensity and patchy.** Furthermore, **prescribed burns should be conducted in early spring (September/October) to avoid summer breeding season, or early autumn (March/April) to avoid removing large areas of vegetation during winter.** Where possible, burns should be conducted during the middle of the day or evening rather than early morning when lizards might be cold and slow moving.

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, especially for species that are difficult to control such as Toowoomba Canary-grass and Flatweed. Burning and/or grazing will allow greater access and efficiency for weed control and increased natural regeneration of indigenous plant species. Periodic burning that is followed by spot spraying will be important for weed species that are difficult to control until they are replaced by native species.

Burning for biomass reduction will only be undertaken where and when there is a need to reduce cover of native grasses (i.e. the dominance of a few species resulting in a species-poor monoculture) in order to improve the condition of the understory. The aim in using fire is to increase diversity whilst ensuring biomass is maintained at an appropriate level.

The NTGVVP offset site must not be burnt more than once every five years (including planned burns following any wildfire events), unless there is above average rainfall and intertussock space is reduced indicating a more frequent burn is required. In general, the most appropriate time to burn is autumn when the weather is mild, most native plants have dropped seed. However, if special circumstances require

biomass reduction during other times of the year, burning may be undertaken with approval in consultation with Trust for Nature.

The extent of all fires must be recorded, including planned burns and wildfires. Prior to any ecological burn taking place, a burn plan must be prepared, including, but not limited to:

- Division of the offset area into burning zones with principles to maximise ecological benefits;
- Minimisation of risks to life and property (e.g. wind direction for burning to avoid smoke over public roads);
- Measures to minimise impacts to biodiversity, including use of fire breaks, minimising disturbance/compaction by vehicles;
- A fire frequency of no greater than once every 5 years will be implemented for any one area across the offset site;
- Conduct any burns in a patchy or mosaic fashion over no more than one third to half the site on any occasion;
- Prescribed burns are to be conducted in early spring (September) or early autumn (March/April) to avoid the Striped Legless Lizard summer breeding season and before weedy plants set seed; and,
- Prescribed fire can only be implemented when conditions are dry enough and open soil cracks are present and outside of the Victorian Declared Fire Danger Period.

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. It is accepted that a wildfire event is out of the control of the landowner and is not subject to these conditions. Burnt areas will be protected from grazing for at least 6 months to allow species regeneration and recruitment to occur.

#### **5.5.6.2 Actions**

- Land manager to undertake routine inspections (minimum quarterly frequency) for grazing cells to determine the pulse grazing requirements for the upcoming season;
- Biomass will be managed by pulse grazing with sheep for a maximum period of four weeks followed by a minimum two-week period of rest, or in wet years by light grazing in smaller numbers over a longer period;
- Over the 10 year management period, grazing will be excluded annually between October 1 to January 31. However, depending on seasonal variations (e.g. high biomass) grazing may still be undertaken across the offset area during this period to ensure that vegetation structure and cover (i.e. inter-tussock space) is maintained (Mavromihalis *et al.* 2013). Ideally, grazing will not occur between October 1 to January 31 for more than two consecutive years, however, an adaptive management approach will be taken to maintain habitat values across the offset area (see Section 8.5.3);
- A fire frequency of no greater than once every 5 years will be implemented for any one area across the site;

- Prescribed fire can only be implemented when conditions are dry enough and open soil cracks are present and outside of the Victorian Declared Fire Danger Period;
- Burnt areas will be protected from grazing for at least 6 months to allow species regeneration and recruitment to occur; and,
- Landowner to monitor for evidence of soil compaction following grazing events. Stock numbers are to be reduced if soil compaction is observed. This can be documented in annual reports.

### 5.5.6.3 Performance Indicators

- Document observations from routine site inspections of biomass and present in the annual report;
- Achieve at least a 1 point increase in the lack of weeds score by at by the Year 5 Detailed Vegetation Monitoring for the 17 ha NTGVVP offset area.
- Maintain a lack of weeds score of 6/15 by the end of the 10 year management period (i.e. <50% cover of weeds and  $\leq$ 50% of weed species present are 'high threat' weeds based on the EVC benchmark) within the NTGVVP offset area and maintain the score at the offset commencement score of 6/15 by the end of the 10 year management period for GSM offset areas outside of the NTGVVP offset area;
- Maintain an understorey score of at least 15/25 (i.e. in accordance with the habitat hectare method) by the end of the 10 year management period (i.e.  $\geq$ 50-90% of life forms present and of those present <50% are substantially modified);
- Stock grazing is excluded between October 1 to January 31, except where necessary for appropriate biomass reduction and the maintenance of inter-tussock space. Grazing should not occur between October 1 to January 31 in more than two consecutive years in the same areas;
- A fire frequency of no greater than once every 5 years will be implemented for any one area across the offset site;
- Maintain organic litter at approximately 10% cover to meet the EVC benchmark for *Plains Grassland*. This will be recorded during detailed vegetation monitoring to be undertaken in years 1,3, 5, 8 and 10 of this OMP; and
- All grazing and burning events effectively documented.

### 5.5.6.4 Adaptive Management

Highly seasonal conditions are not uncommon across western Victoria and can result in variable habitat conditions within and between years. This is acknowledged within the OMP by allowing for a flexible approach to the timing of grazing actions at the discretion of the landowner.

## 5.6 Management Actions Table

Management actions proposed to compensate for the loss of native vegetation and habitat under Commonwealth legislation at the offset site are presented in Table 11. The actions constitute the minimum management requirements for the offset site over the mandatory 10-year management period and are appropriate for the management of the NTGVVP community and GSM population.

**Table 11.** Management Actions Table

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Fencing</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Establish fence around the boundary of the offset site in accordance with advice from a qualified ecologist and land surveyor Refer Section 5.5.3.	Within 18 months on commencement of OMP	Facilitate management and monitoring of the offset site. Delineate location of temporary exclusion fence.
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Maintain fencing in good condition to appropriately exclude unintended grazing by livestock over the 10 year management period. Refer Section 5.5.3	Ongoing	Maintain fencing to DELWP fencing standards in BushBroker Information Sheet 12 - Standards for Management – Fencing (excluding the southern boundary along the stone wall where a simple stock-proof fence will be used)



Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Woody Weeds</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control new and emerging woody weeds Refer Section 5.5.4	Ongoing	Maintain woody weeds (<1% cover)
<b>Herbaceous Weeds</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control herbaceous weeds. Refer to Table 7 for list of herbaceous weeds, their control method and timing of actions Refer Section 5.5.4	Refer to Table 8	Maintain high threat weeds to levels outlined with section 5.5.4. Minimise off-target damage (avoid all native plants)
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control all new & emerging herbaceous weeds Refer Section 5.5.4	Ongoing.	<2% cover of all new and emerging herbaceous weeds at the end of Year 10
<b>Pest Animals</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Control rabbits and foxes. Refer to Table 5 for a list of control methods and timing of actions Refer Section 5.5.5	Refer to Table 9	No surface disturbance within the offset site; No active rabbit warrens to be present; No active fox dens to be present; No rubbish/artificial harbour present; Minimal artificial piles of logs and rocks
1-10	30 ha of GSM habitat;	Monitor and control rabbits and foxes Refer Section 5.5.5	Ongoing	Reduction in the abundance of pest animals, and no detectable impacts to the native grassland

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
	33 ha of NTGVVP			
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Monitor and control all new and emerging pest animals Refer Section 5.5.5	Ongoing	Control numbers of any new & emerging pest animals
<b>Biomass Management</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Pulse grazing in dry years and light graving in wet years. Refer Section 5.5.6	The maximum length of continuous grazing is four weeks with at least two weeks rest between cycles. Stock generally excluded during October - January Stock removed immediately following any high rainfall events.	Stock must be removed should total vegetation cover fall to or below 70% Sufficient bare ground (approximately 20%) maintained in order to maintain space for recruitment of herbs and grasses. Maintain or improve species richness and improve species diversity. No loss of native plant diversity as a result of grazing regimes. Reduction in weed cover. All grazing events to be documented.
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Monitor organic litter and grass density and enact ecological burn or other biomass reduction plan if appropriate Refer Section 5.5.6	Outside of the GSM active season and SLL breeding season. Do not burn an area more than once every 5 years	Sufficient bare ground (approximately 20%) maintained in order to maintain space for recruitment of herbs and grasses. Maintain or improve species richness and improve species diversity. Flush out weed seed stored in seed bank. No loss of native plant diversity as a result of burning regimes. Reduction in weed cover. All burning events to be documented.

Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
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**Detailed native vegetation and GSM monitoring**

Years 1, 3, 5, 8 and 10	30 ha of GSM habitat; 33 ha of NTGVVP	<p>Monitoring</p> <p>Refer Section 8.2, 8.3 and 8.5</p> <p>Landowner responsible for arranging third party monitoring, while the Approval Holder is responsible for funding monitoring and reporting.</p>	Spring/Summer	<p>Assessment of the effectiveness of the management actions. Monitoring reports will include a review of past management works against the performance targets and objectives contained within this OMP, and recommended changes to management actions where required.</p> <p>Landowner to submit Annual Reports including surveys to TFN and the Approval Holder. The Approval Holder is responsible for submitting all reporting to DAWE.</p>
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Year from Commencement	Area	Management Action Description	Timing	Environmental outcome to be achieved
<b>Annual reporting</b>				
1-10	30 ha of GSM habitat; 33 ha of NTGVVP	Prepare and submit an annual report and photo monitoring to TfN and Approval Holder. Refer Section 8.5.	Submit at least 2 months prior to on-title covenant anniversary date, depending on the commencement date of the offset	<p>Report provides enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of / progress against the commitments for the offset site. Report will also include photos that are reviewed by a qualified ecologist.</p> <p>Allow for ongoing assessment of the effectiveness of management. Reports will include a review of past management works against the performance targets and objectives contained within this OMP. Future management priorities will also be detailed in these reports.</p> <p>Obligations of the landowner have been met and the obligations form is signed, dated and submitted with the annual report</p>
5	30 ha of GSM habitat; 33 ha of NTGVVP	Review effectiveness of OMP. Refer Section 8.5.	End of Year 5.	If this OMP is not meeting its objectives, a review will be undertaken, and this OMP will be updated as required and implemented for the remaining 5 years of management, the Approval Holder has the responsibility of instigating this.

## 6 CONTINGENCY RESPONSE AND CORRECTIVE ACTIONS

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The landowner will use an Adaptive Management Approach to allow the flexibility to respond appropriately and effectively to the uncertainties involved in ecological processes. This will allow management actions to adapt to changing circumstances that may occur on the site.

If after Year 5 of management, the actions detailed in this OMP are not leading to the ongoing maintenance and of the GSM habitat, and improvement of the NTGVVP community, the Approval Holder, in consultation with the landowner and TfN will instigate a review of the OMP and where required, update this management plan for implementation of the remaining five years of management. Any revisions of the OMP proposed must be submitted to DAWE to seek the agreement of the Minister.

Any proposed changes to the management contrary to that specified within this plan must be approved by the Approval Holder and TfN, prior to implementation. Any proposed uses or development of the site which conflict with the landowners' commitments or maintenance/improvement of the GSM habitat and/or NTGVVP community are not permitted under this plan.

Alternative management measures, as part of an adaptive management approach, may be implemented if:

- The performance indicators outlined within Section 5 are unable to be met based on methods outlined within this plan;
- A new management technique has been identified which is more effective in meeting the objectives of this OMP, and relevant recovery plans, threat abatement plans, conservation advices and does not increase risk of impacts to GSM habitat and NTGVVP communities. A review of the benefits and risks of the proposed management technique must be prepared and submitted to the Approval Holder; and,
- The proposed management technique has been approved by the Approval Holder and TfN.

Alternative management measures and corrective actions will be included in the monitoring report.

Where an adaptive management approach has been implemented, the success, or failure, of the approach will be outlined within subsequent third-party monitoring reports. The third-party monitoring reports will include recommendations on whether the approach should be continued, or whether subsequent alternative management is recommended.

### 6.1 Managing Uncertainty

An assessment of potential risks associate with the objectives of this plan are outlined within Table 1. All risks are considered manageable and actions within relevant sections of this OMP address the risks.

The proponent and the landowner acknowledge that achieving the weed control targets can be difficult in a changing ecosystem like grasslands. The Landowner agrees to implement the OMP and carry out all activities as outlined and maintain records of those activities. The proponent acknowledges that the Landowner may not be able to achieve the weed control targets outlined and will not seek to hold the Landowner liable in the event those weed control targets have not been achieved in Year 10.

## 7 EMERGENCY CONTACTS AND PROCEDURES

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Should any environmental incident occur on-site that poses a risk to the objectives of this OMP, the relevant contacts (Table 12) must be notified as soon as possible, and no later than 24 hours following the event or the landowner becoming aware of the event. At a minimum, TfN and the Approval Holder must be notified, and if required, the relevant emergency services. Incident responders must be advised of the on-site protections to avoid inadvertent damage to ecological values (e.g. creation of graded earthen fire breaks within the site, which unless absolutely necessary, must be avoided).

**Table 12. Emergency contacts**

Contact	Role	Telephone
Country Fire Authority (CFA)	Bushfire emergency	000
Victoria Police	Various (e.g. unauthorised access)	000
Approval Holder	Approval Holder	13 44 99
TfN	Offset Monitoring Responsibility	(03) 8631 5888
Landholder	Offset Management	Undisclosed

## 8 MONITORING AND REPORTING

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Ongoing monitoring is required to determine whether the GSM habitat, and NTGVVP community quality persists and remain viable over time and to verify the objectives of this OMP are being met.

Site monitoring will include:

- General habitat monitoring (i.e. as described in Section 5.5.7) by the landowner (or an appointed qualified entity on behalf of the landowner) annually; and,
- Detailed monitoring to be conducted by a qualified ecologist in Years 1, 3, 5, 8 and 10 of this management plan. This will include a detailed habitat hectares assessment in each year of the detailed monitoring.

Further details on the monitoring actions are outlined below.

### 8.1 Landowner Annual Monitoring of Habitat and Effectiveness of Management actions

A qualified ecologist will establish eight permanent photo-points across the offset site. These points will be physically marked by the installation of a star picket and marked via GPS, numbered and shown on a figure. Photographs taken by the landowner from these points will be representative of the vegetation and objectives of the OMP (e.g. areas of high threat weed invasion). Photographs will be taken in October/November annually and clearly labelled. Each photo will be taken from as near to the same point each year and will use the same direction, trajectory and camera settings as is practicable. Photographs will focus on a 5 x 5 metre area.

Annual monitoring must be undertaken by the landowner (or an appointed entity on behalf of the landowner) over the 10 year Offset Management Period, and must include an assessment of:

- Photographs taken at established photo-points;
- The extent, severity, trend and presence of current weed species, recognising the Landowner is not a weed expert;
- The extent, severity, trend and presence of pest animal activity;
- Biomass levels, visually assessed across the site;
- Evidence of unpermitted human/stock access; and,
- Any new threats.

The annual monitoring completed by the landholder will be undertaken for each year of the 10 years of this Offset Management Plan.

Photographs and Annual Reports are to be submitted to TfN and the Approval Holder at least two months prior to the anniversary date of the lodgement of the agreement on title to allow time for compliance to be assessed before the anniversary date, depending on the end date for the 10 year Offset Management period.

The Annual Report addresses progress against the commitments set out in this agreement. Annual Reports must provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for each zone.

A template for a landowner monitoring and reporting form is shown in Table 13. Information to be provided in the reporting form includes:

- A copy of the Management Action Table (Table 12) from the OMP with information on which actions have been completed for year/s of this reporting period;
- A description of the specific monitoring results from third party surveys undertaken (i.e. NTGVVP condition assessment);
- Success of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.); and,
- Provide photographs showing evidence of works.
- Copies of third party monitoring for NTGVVP and GSM as required.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified, the landowner will document the justification and the actions that will be undertaken as a result of the incomplete action.

All records/evidence of management actions must be maintained and be submitted to TfN and/or Approval Holder upon request, and any proposed changes to management must be submitted to TfN and/or Approval Holder prior to the changes being undertaken.



**Table 13.** Template for landowner monitoring and reporting.

Landowner of offset site	
Location and address of offset site	
Offset site number (if applicable)	
Offset plan reference number (if applicable)	
Responsible Authority	
Report #	
Signature	
Date	
Details of works undertaken	<b>NTGVVP Area:</b>
	<b>GSM Area:</b>
Monitoring and Reporting Checklist	<ul style="list-style-type: none"> <li>● Detailing actions completed during the reporting period;</li> <li>● Results of NTGVVP area third-party vegetation condition assessment in the appropriate years (Habitat Hectare Assessment);</li> <li>● Results of third-party GSM population monitoring in the appropriate years;</li> <li>● A description of the specific monitoring results from third party ecological surveys undertaken;             <ul style="list-style-type: none"> <li>● Results of weed and pest animal control work;</li> </ul> </li> <li>● Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);</li> <li>● Any problems or issues experienced (i.e. new infestation of weed species, etc.);</li> <li>● Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation;             <ul style="list-style-type: none"> <li>● Photographs showing evidence of works; and,</li> </ul> </li> <li>● Progress against the performance indicators set out in this OMP.</li> </ul>

## 8.2 Detailed Vegetation Monitoring (Years 1, 3, 5, 8 and 10)

Detailed NTGVVP monitoring of the 17.5 ha offset site will be instigated by the Approval Holder and conducted by a qualified ecologist in Years 1, 3, 5, 8 and 10 of this management plan, and will document the following:

- Overall assessment of the quality and quantity of vegetation and composition of species (i.e. Habitat Hectare assessment\*);
- Biomass levels, assessed through 14 x 1 m<sup>2</sup> sampling plots equidistant along the offset site;
- The extent, severity, trend and presence of current weed species and any new and emerging weed species; and,
- All third-party monitoring as required in this OMP is to be arranged by the landowner and funded by the Approval Holder.

*\* Department of Sustainability and Environment 2004. Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Department of Sustainability and Environment, Melbourne Victoria*

## 8.3 Golden Sun Moth Population Monitoring (Years 1, 3, 5, 8 and 10)

In addition to native vegetation monitoring outlined in Section 8.2, appropriate monitoring of GSM will be undertaken within the entire 33 ha offset area in years 1, 3, 5, 8 and 10 of this management plan, or thereafter upon written agreement with the Approval Holder. The GSM monitoring detailed below will be undertaken by suitably qualified ecologists.

Specific survey procedures will follow approved monitoring guidelines for GSM (DEWHA 2009). The following measures will be undertaken as part of population and habitat monitoring for GSM at the offset site:

- Surveys are to be conducted by suitably qualified ecologists during the local flying season (November to early January);
- Surveys will concentrate in areas identified as supporting indigenous grassland, namely those supporting wallaby-grass which is a known food source for GSM;
- Surveys will be conducted over a minimum of four separate days during the known flight season (i.e. November to early January) at least a 4 day interval;
- Observers will walk/drive transects spaced at 50 metres apart to and count observations for GSM recorded across the entire offset site.
- Surveys will be undertaken at a time which is considered suitable for detecting the species (i.e. when adult males are flying), and when GSM was observed flying at nearby locations. (The male of this species generally flies between 11am and 3pm on calm, warm (over 20°C), sunny days);
- All third-party monitoring and reporting as required in this OMP will be arranged by the landowner and funded by the Approval Holder.
- GSM monitoring should consist of 4 visits per year for years 1 and 3 and then at least 2 visits per year for the remainder of the offset.

## 8.4 Baseline Rabbit Abundance and Ongoing Monitoring

The CaLP Act requires that landowners take all reasonable measures to control or eradicate any pest animal population on their land. The control of declared pest animal is a requirement of this OMP alongside the legal requirement under the CALP Act.

### 8.4.1 Baseline Rabbit Abundance Survey

Baseline data on the abundance of rabbits and distribution of warrens throughout the site must be established in order to provide to text to future assessment of the effectiveness of control actions prescribed in Section 5.5.6. A baseline abundance survey must be undertaken by a qualified ecologist during Year 1 of the OMP.

The baseline abundance survey will:

- Assess the entire 33 hectare offset area and an area of 100 metres surrounding the offset area within the overall property;
- Map with handheld GPS existing warrens and area of harbour (i.e. rock piles or woody weeds including African Boxthorn and Sweet Briar);
- Note the location and abundance of any observations of European Rabbit or European Hare within the offset site or overall property;
- Note observation of any secondary evidence of rabbit presence (i.e. grazing, scats or diggings); and
- Provide the data collected to the landowner to inform the implementation of initial rabbit control efforts.

### 8.4.2 Ongoing Rabbit Monitoring

Monitoring of the rabbit population within the site will be undertaken by the landowner during routine site inspections outlined in Section 5.5.5.

Routine inspections for the purpose of pest animal population monitoring will be undertaken by the landowner at a minimum quarterly frequency.

The routine inspections will:

- Note the presence of any new warrens within the site; and
- Note the location and abundance of any observations of European Rabbit or European Hare within the offset site or overall property.

Observations of rabbits and any other pest animals recorded during the routine site inspections must be presented in the annual report (8.1).

## 8.5 Reporting

### 8.5.1 Annual Reporting

This OMP requires the landowner to submit a report annually to TfN and the Approval Holder for each year of the 10 Years of this Offset Management Plan. Any monitoring and reporting beyond the 10 years (i.e. until the end of the approval) will be the responsibility of the Approval Holder (not the landowner) to ensure that any additional information required by DAWE and/or Trust for Nature is provided.

Reports are to be submitted at least two months prior to the anniversary date of the execution of the agreement to allow time for compliance to be assessed before the anniversary date. The Approval Holder will forward the annual report to DAWE. Reports will summarise the results of the annual monitoring as per Section 8.1 above and progress against the performance indicators set out in this OMP, as outlined in the Landowner Reporting Template.

The annual reports will provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of/progress against the commitments for the offset site (listed in Section 5.4).

Information to be provided in the annual reports includes:

- Detailing actions completed during the reporting period;
- Results of NTGVVP area third-party vegetation condition assessment in the appropriate years (Habitat Hectare Assessment);
- Results of third-party GSM population monitoring in the appropriate years;
- A description of the specific monitoring results from third party ecological surveys undertaken;
- Results of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.);
- Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation;
- Photographs showing evidence of works; and,
- Progress against the performance indicators set out in this OMP.

If any agreed management actions or commitments (excluding third party monitoring) are incomplete or have not been undertaken in the times specified, the landowner is to document the justification and the substituted actions that will be undertaken in order to compensate and ensure the required outcomes are achieved.

### 8.5.2 Detailed Assessment Reporting

Detailed assessment reports will summarise the findings of the Year 1, 3, 5, 8 and 10 Detailed Vegetation Monitoring (Section 8.2) and include a review of the effectiveness of management actions against

performance indicators of this OMP. This will be completed by a qualified ecologist and provided to the permit holder. A general assessment against the predicted EPBC offset gain calculator outcomes will also be provided. This component of reporting is to be completed by a qualified ecologist and funded by the Approval Holder. The Approval Holder will provide all detailed assessment reports to TfN and DAWE.

### **8.5.3 Corrective Action**

Upon completion of the 10 Year OMP, ongoing annual reporting is required to be completed until the end of approval (i.e. 2040). The annual reporting will confirm the condition of the vegetation within the offset site following the Year 10 management targets, to ensure the ongoing land-use commitments are maintained (Section 5.4).

If one or several of the land-use commitments are reported as having declined since the end of the 10 Year management period, then corrective management action/s must be taken by the landholder and the proponent in an effort to meet the commitments. During the period of corrective action, detailed monitoring will be completed relevant to the commitment to be achieved. For example, if an annual reporting event between years 11 and end of approval record a VQA score of less than 6/15 for weed cover in the NTGVVP offset area, then corrective management actions must be undertaken to re-achieve the 6/15 weed cover score. Detailed vegetation monitoring (Section 8.2) will be undertaken each year following the missed target, until the target is reached again.

### **8.5.4 Offset Management Plan Review**

The OMP will be reviewed by a suitably qualified ecologist, in consultation with the landowner, TfN and Approval Holder following the detailed Year 5 assessment. This will be the responsibility of the Approval Holder to arrange. Where relevant, the review will make recommendations to improve the performance of management actions. The OMP review is to be instigated and funded by the Approval Holder. It is the responsibility of the landowner to implement the relevant management actions described within this OMP, decisions regarding adaptive management and the ultimate performance of the OMP are the responsibility of the Approval Holder.

The Approval Holder will forward the 5-year review to DAWE. Should any material changes to the OMP be proposed as a result of the 5-year review, the Approval Holder will seek DAWE's approval prior to implementation of the changes.

A Year-10 review will also be conducted to determine whether the outcomes of the management plan have met the predicted outcomes of the EPBC offset gain calculator.

All records/evidence of management actions will be maintained by the landowner and be submitted to DAWE upon request.

## 8.5 Monitoring and Reporting Timeline

**Table 14.** Timeline of Monitoring and Reporting requirements throughout the 10 year Offset Management Period

OMP Year	Task	Responsibility	Relevant OMP Section
1	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
1	Detailed NTGVVP Monitoring 17.5 ha site	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
1	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
1	Baseline Rabbit Abundance Survey	Undertaken by a qualified ecologist and funded by the Approval Holder	8.4.1
1	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
1	Annual Report- (Complete template provided)	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
1	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
2	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
2	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
2	Annual Report - See Template	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
3	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
3	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
3	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
3	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2



OMP Year	Task	Responsibility	Relevant OMP Section
3	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
3	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
4	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
4	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
4	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
5	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
5	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
5	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
5	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
5	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
5	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
5	Offset Management Plan Review	A qualified ecologist engaged by the Approval Holder. Review to be completed in consultation with the Landowner and TfN	8.5.3
6	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
6	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.5.2
6	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
7	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1



OMP Year	Task	Responsibility	Relevant OMP Section
7	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
7	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
8	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
8	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
8	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
8	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
8	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
8	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
9	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
9	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
9	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1
10	Annual Monitoring of Habitat and Effectiveness of Management Actions	Landowner	8.1
10	Detailed Vegetation Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.2
10	GSM Population Monitoring	Undertaken by a qualified ecologist and funded by the Approval Holder	8.3
10	Ongoing Rabbit Monitoring	Undertaken by Landowner during site inspections and incorporated into annual reports	8.4.2
10	Annual Report	Prepared and submitted by the Landowner annually to TfN and the Approval Holder	8.5.1





OMP Year	Task	Responsibility	Relevant OMP Section
10	Detailed Assessment Reporting	Undertaken by a qualified ecologist and funded by the Approval Holder	8.5.2
10	Offset Management Plan Review	A qualified ecologist engaged by the Approval Holder. Review to be completed in consultation with the Landowner and TfN	8.5.3

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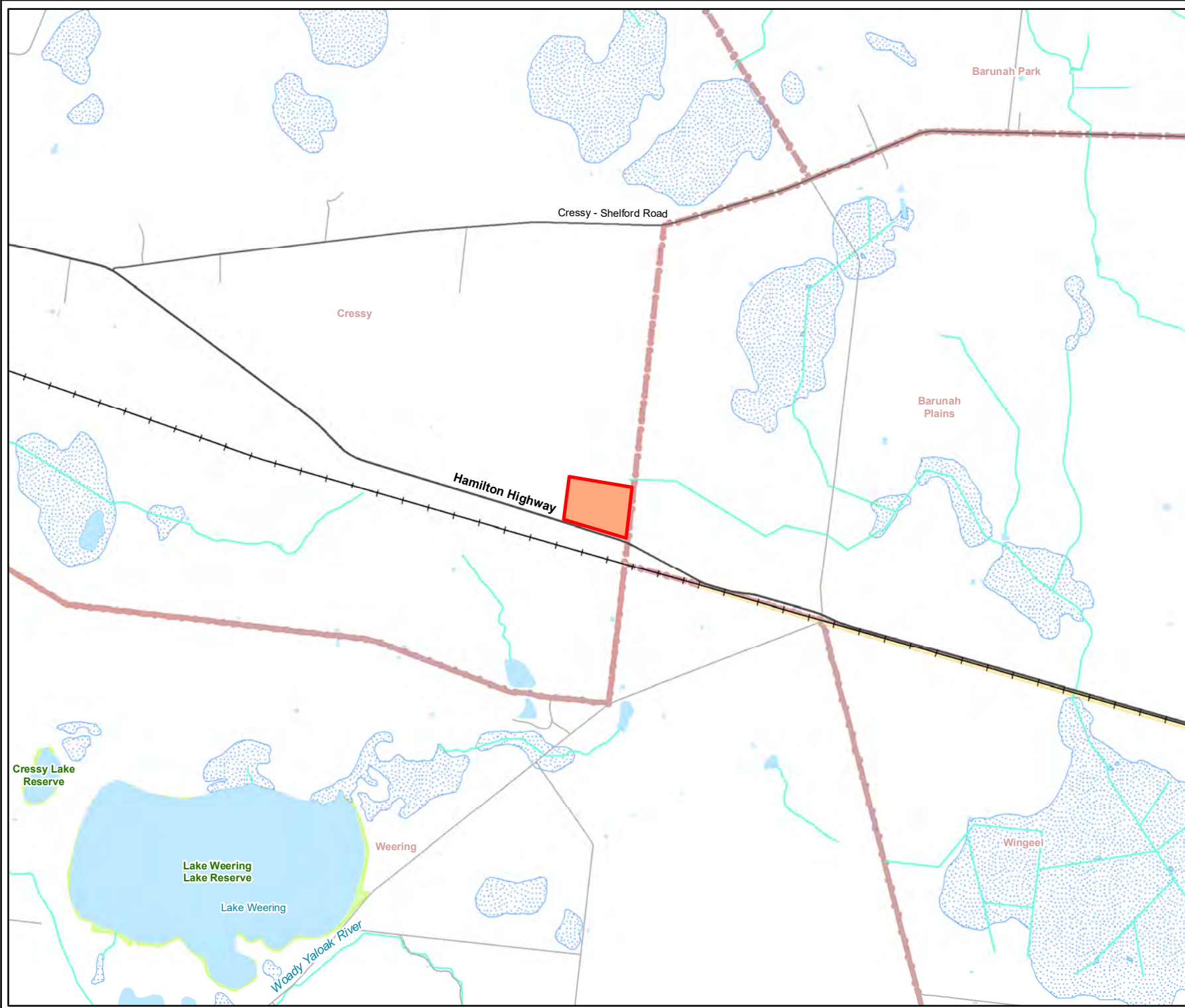
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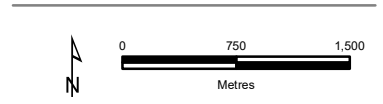


**Legend**

- Proposed offset site
- Railway
- Major Road
- Collector Road
- Minor Road
- Minor Watercourse
- Permanent Waterbody
- Land Subject to Inundation
- Parks and Reserves
- Crown Land
- Localities



**Figure 1**  
**Location of the offset site**  
*Offset Management Plan for Parwan Melton Pipeline*



VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

14751 Fig01 Loc OffsetSite 17/02/2021 melsley



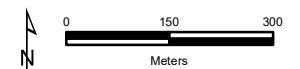


**Legend**

-  Proposed Golden Sun Moth offset site (30 ha)
-  NTGVVP offset site (33 ha)
-  Property boundaries
-  Existing offset site
-  Water point exclusion zone



**Figure 2**  
**Offset locations within the property**  
*Offset Management Plan for Parwan Melton Pipeline*



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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14751\_Fig02\_Offset\_Prop\_12/05/2022\_Melslev

## Appendix 1. Risk Assessment and Management Definitions

### Risk framework

		• Consequence				
		• Minor	Moderate	• High	• Major	• Critical
• Likelihood	• Highly Likely	Medium	• High	• High	Severe	Severe
	Likely	• Low	Medium	• High	• High	• Severe
	Possible	• Low	Medium	Medium	• High	• Severe
	• Unlikely	• Low	• Low	Medium	• High	• High
	Rare	• Low	• Low	• Low	Medium	• High

## Likelihood and consequence

<b>Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)</b>	
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely or doubtful
Rare	May occur in exceptional circumstances
<b>Qualitative measure of consequences (what will be the consequence/result if the issue does occur)</b>	
Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, with no evidenced mitigation strategies.

## **Appendix 2. EPBC OFFSET CALCULATOR**



# 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	NTGVVP	Area	4.961	Hectares	
			Quality	3	Scale 0-10	
			Total quantum of impact	1.49	Adjusted hectares	
<i>Threatened species habitat</i>						
Area of habitat	No		Area			Field mapping
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species</i>						
<b>Protected matter attributes</b>						
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<i>Threatened species</i>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																					
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
<i>Ecological Communities</i>																					
Area of community	Yes	1.49	Adjusted hectares	17.5 ha at Cressy Off-site Offset	Risk-related time horizon (max. 20 years)	20	Start area (hectares)	33	Risk of loss (% without offset)	5%	Risk of loss (% with offset)	1%	1.32	90%	1.19	0.32	1.49	100.13%	Yes		
						Future area without offset (adjusted hectares)	31.4	Future area with offset (adjusted hectares)	32.7												
						Time until ecological benefit	10	Start quality (scale of 0-10)	6	Future quality without offset (scale of 0-10)	5	Future quality with offset (scale of 0-10)	6	1.00	80%	0.80					
<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)		75%							
<i>Threatened species</i>																					
<b>Protected matter attributes</b>																					
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
<i>Threatened species</i>																					
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g. Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	1.4883	1.49	100.13%	Yes	\$0.00	N/A	\$0.00
					<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>