Stockyard Hill Wind Farm

EPBC 2016/7746

22 May 2020 to 21 May 2021

Annual Compliance Report 2021

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Prepared by: Goldwind Australia (GWA)

For: Stockyard Hill Wind Farm Pty Ltd

GOLDWIND

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ABBREVIATIONS

Approval Holder	Stockyard Hill Wind Farm Pty Ltd (ABN 71 118 119 501)
BB	Bush Broker
EMP	Environmental Management Plan (approved by DELWP under SHWEF permit)
Commencement	As per the Definitions in Approval
CTA	Credit Trade Agreement
DAWE or Department	Department of Agriculture, Water and Environment administering the EPBC Act 1999
DELWP	Department of Environment, Land, Water and Planning
EPBC	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EPBC 2016/7746	EPBC Approval No. 2016/7746
EPC	Engineer, Procure and Construct
GSM	Golden Sun Moth *Synemon plana* listed under EPBC Act 1999
GWA	Goldwind Australia Pty Ltd (ACN 140 108 390)
Ha	Hectare
kV	Kilovolt
LA	Landowner Agreement
Minister	The Minister administering the EPBC Act 1999
MW	Megawatt
O&M	Operations and Maintenance (Phase of Development)
OMS	Offset Management Strategy
SCADA	Supervisory Control and Data Acquisition
SHWF	Stockyard Hill Wind Farm
SHWEF	Stockyard Hill Wind Energy Facility comprising 149 wind turbines and associated facilities
SLL	Striped legless lizard *Delmar Impar* listed under EPBC Act 1999
Strategy	See OMS, Offset Management Strategy
The Land	Project land as shown in Planning Permit and EPBC Referral/Approval documents
The Proponent	Stockyard Hill Wind Farm Pty Ltd (SHWFPL)
SHWFPL address	Stockyard Hill Wind Farm Pty Ltd Level 25, Tower 1, 100 Barangaroo Avenue, Barangaroo NSW 2000

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Declaration of Accuracy

This Annual Compliance Report relates to the Stockyard Hill Wind Farm located in Western Victoria between Beaufort and Skipton.

The Annual Compliance Report has been prepared in accordance with the requirements of the Condition 6 of the EPBC Approval, issued under the Environment Protection Biodiversity and Conservation Act 1999, in respect of the following Action:

> ***Stockyard Hill Wind Farm, Wind Energy Facility and associated infrastructure, southwest Victoria (EPBC 2016/7746)***

This Report:

- *has been prepared for submission to the Department of Agriculture, Water and Environment in accordance with the submission requirement of Condition 6 of the Approval and based on the anniversary of commencement of the Action, 22 May 2018;*
- *addresses each of the Conditions of the Approval and Management Strategies to describe the status of compliance with the respective requirements;*
- *provides an accurate account of the respective matters for the Approval and does not intentionally misrepresent circumstances; and*
- *Is made publicly available (except as indicated for Appendix C) through publication on the Stockyard Hill Wind Farm website (www.stockyardhilllwindfarm.com).*

Jeff Bembrick

Development Compliance Manager, Goldwind Australia, on behalf of Stockyard Hill Wind Farm Pty Ltd.

09 August 2021

1 INTRODUCTION

1.1 Purpose of this document

This Annual Compliance Report describes the activities undertaken and relevant performance in respect of:

- **Project:** Stockyard Hill Wind Farm – Wind Energy Facility and associated infrastructure;
- **Proponent:** Stockyard Hill Wind Farm Pty Ltd (ABN 71 118 119 501);
- **EPBC Approval:** EPBC 2016/7746;
- **Condition No. 6** – Year 3 report under requirements of Condition 6 of the Approval;
- **Report period:** 22 May 2020 to 21 May 2021;
- **Project phase:** Construction/Commissioning phase for current reporting period.

The report has been prepared by Goldwind Australia on behalf of Stockyard Hill Wind Farm Pty Ltd.

The report has been prepared in accordance with Condition 6 of EPBC Approval, EPBC 2016/7746, to fulfil the requirements of Condition 6. Table 1.1 lists the requirements of Condition 6 and the sections of this report where each requirement is addressed.

Table 1.1: EPBC Condition 6 - Annual Compliance Reporting Requirements

EPBC Approval Condition 6 Reporting Requirements	Details
Within three months of every 12 month anniversary of the commencement of construction, the approval holder must publish a report on their website	Due Date is by 22 August 2021
• The report to be published on the website must address:	See below:
○ compliance with each of the conditions of this approval, including	Section 4, and Appendix A, B and C
○ implementation of any strategies specified in the conditions.	Section 4, and Appendix A, B and C
• Documentary evidence providing:	See below:
○ proof of the date of publication, and	Email/Letter to Department
○ non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published.	As per this report. No instances of non-compliance.
Report must remain published for the life of the approval	Ongoing requirement
Continue to publish reports until such time as advised in writing by Minister	Ongoing requirement

A summary of compliance status for the Approval Conditions and Management Strategies (Year 3) is shown in Table 1.2 and is expanded on in Section 4, Appendix A (Compliance Tracker), Appendix B (SMEC Report, March 2021) and Appendix C (SMEC Report, February 2021).

Table 1.2 – Summary of Year 3 Compliance for Conditions of Approval and Management Plans

Condition	Compliance Status	Requirement	Date Completed
1(a)	Compliant	Clear less than 42.16 ha SLL habitat	Refer Year 2 Rpt.
1(b)	Compliant	Clear less than 1.57 ha GSM habitat	Refer Year 2 Rpt.
2(a)	Compliant	SLL Covenant secured	Refer Year 1 Rpt.
2(b)	Compliant	Implement SLL Offset Management Strategy	Year 3 complete
3(a)	Compliant	GSM Covenant secured	Refer Year 1 Rpt.
3(b)	Compliant	Implement GSM Offset Management Strategy	Year 3 complete
Administrative			
4	Compliant	Notify Commencement	4 June 2018
5	Compliant	Maintain records of all activities	Ongoing
6	Compliant	Annual Compliance Reporting	Ongoing – 3rd Rpt.
7	Compliant	Revision of Strategy – (Notified 4 Aug 2021)	Addressed Year 4
8	Not Applicable	Revoke choice under Condition 7	NA - Year 3
9	Not Applicable	Exclusions to Condition 7 applicability	NA - Year 3
10	Not applicable	Minister's decision on revised strategy	NA - Year 3
11	Not applicable	Notify time Condition 7 does not apply	NA - Year 3
12	Not applicable	Conditions 7, 8 not intended to limit operation of Section 143A in respect of revised strategy	Noted
13	Compliant	Not commence after 5 years of Approval without written agreement of Minister. (Approval dated 18 August 2017)	Commenced on 22/5/2018 (less than 5 years)
14	Compliant	Publish all strategies on the website	At time of submission
15	Not applicable	Provide copy of any strategy to members of public upon request within reasonable time	No requests to date
Definitions	For information	Various	Noted

Offset Management Strategies for Year 3			**Status Year 3**
2(b) SLL	3.1	Undertake fencing repairs, as required	Complies
	3.2	Commence direct seeding in Zones 1b, 1c, 2b and 3b	Complies
	3.3	Conduct site preparation weed control for rehabilitation works in Zones 2a and 3a	Complies
	3.4	Undertake SLL monitoring at five existing sites within onsite offset site (Figure 2 of Appendix B)	Complies
	3.5	Undertake detailed vegetation monitoring within Zones 1a, 1b, 2a and 3a (Figure 4 of Appendix B)	Complies
	3.6	Monitor populations of pest animals and conduct control works if required	Complies
	3.7	Monitor and assess works (summary report provided in Appendix B)	Complies
3(b) GSM	3.1	Conduct weed control	Complies
	3.2	Monitor populations of pest animals and conduct works if required	Complies
	3.3	Conduct monitoring for GSM (Appendix C)	Complies
	3.4	Maintain fences	Complies
	3.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/fuel reduction plan if appropriate (Appendix C)	Complies
	3.6	Monitor and assess works (no report required –but provided as Appendix C)	Complies

2 SUMMARY DETAILS OF SHWEF PROJECT, LOCATION AND CONTEXT

2.1 Project Context

Stockyard Hill Wind Farm (SHWEF) has been developed in Western Victoria between the towns of Beaufort and Skipton. Construction activities commenced in May 2018 with commencement of the Action under the EPBC Approval EPBC 2016/7746, notified on 4 June 2018, as having commenced from 22 May 2018.

The construction and turbine installation is now complete with the wind farm undergoing commissioning that has been deferred such that full operations may occur towards the end of 2021 or, early 2022. At the end of the 2021 annual report period (21 May 2021), all 149 wind turbines were installed and undergoing testing, one turbine at a time. Wind farm registration for 286MW was only gained in early July 2021.

When operational, the wind farm's 149 Goldwind wind turbines will collectively produce approximately 530 MW of electricity sourced from the wind energy resources available at the site.

Once operational, SHWEF will provide a significant contribution to Victoria's renewable energy target and national greenhouse gas emissions reductions.

2.2 Project Locality and Setting

SHWEF is located in Western Victoria, approximately 35 kilometres west of Ballarat (Figure 2.1). The site is within a sparsely settled rural lands within the Victorian Volcanic Plains and within the Pyrenees Shire Council municipality. The land where the turbines are located ranges in height from approximately 325 metres to 430 metres above sea level and within Glen Hopkins CMA. It spans parts of two bioregions, Central Victorian Uplands and Victorian Volcanic Plain Bioregion.

The site spans a wide area, approximately 25 kilometres from north to south and approximately 20 kilometres from east to west. The wind turbines are grouped in four discrete geographic areas North, East, West and South as indicated in Figure 2.1. Distribution of the turbines by Turbine Group is shown in Table 2.1 and Figure 2.1.

Table 2.1 SHWEF Groups of Wind Turbines and Associated Infrastructure

Turbine group	Number of wind turbines	Wind Turbine Numbering	Other infrastructure within each Group
North	15	WTG 1-15	access tracks, underground cabling, 1 permanent met mast, substation and internal OHL
West	54	WTG 16-69	access tracks, underground cabling, 3 permanent met masts, substation and internal OHL, 4 new access to RDZ1, Site compound, O&M buildings and Fire suppression water tank
East	43	WTG 70-112	access tracks, underground cabling, 2 permanent met masts, substation, 7 new access to RDZ1, Site compound, O&M buildings and Fire suppression water tank
South	37	WTG 113- 149	access tracks, underground cabling, 2 permanent met mast, substation, Site compound, and O&M buildings and Fire suppression water tank
Total	**149**	**1 to 149**	

The SHWEF site is accessible by sealed and unsealed roads, normally associated with low to moderate traffic levels, some of which have been upgraded in parts, for the project access requirements.

The wind farm is situated on privately-owned land which is used for pastoral purposes and has scattered residential development. The project area is subject to leases between SHWFPL and respective landowners allowing the wind farm activities to be undertaken in accordance with the commercial provisions of the respective leases.

The biodiversity values for the project area have been significantly reduced by many years of pastoral activities, but nevertheless include threatened flora species and native vegetation communities and a number of threatened fauna species. Parts of the project area have been set aside for conservation purposes as part of biodiversity offset provisions arising from the project's unavoidable impacts on the location's biodiversity and native vegetation credits have also been secured prior to commencement of construction. The secured offset credits relate to provisions of the EPBC Approval (Conditions 2 and 3) and the Victorian planning permit (Condition 18).

SMEC has also reviewed impacts on Threatened Species and Communities listed under the EPBC Act and details are provided in Appendix B (Section 3.3). It is noted that the impact on Natural Temperate Grasslands of the Victorian Volcanic Plain increased from an estimated 0.08 hectares to 0.121 hectares as described in Appendix B. The overall increase was assessed by SMEC as 0.041 hectares and was '*considered unlikely to constitute a 'significant impact' under condition thresholds the EPBC Act Significant Impact Guidelines (SEWPAC 2011).'*

2.3 Associated Planning Approvals

In addition to the EPBC approval for the SHWEF Project, the development is permitted under Planning Permit PL-SP/05/0548/B that has been issued by the Victorian Minister for Planning and amended on two occasions.

The Victorian planning permit for SHWEF, was initially issued by the Minister for Planning on 26 October 2010 and, has been amended on two occasions, of most relevance in 2017, to provide for a project comprising 149 wind turbines on the layout shown in Figure 2.1 that has been micro-sited generally in accordance with the endorsed Condition 1 Development Plans for SHWEF (consistent with Condition 2). A Permit amendment application is now under consideration by DELWP.

A quarry was also established within the wind farm area under separate approvals and not within areas of mapped native vegetation. The quarry activity has now ceased, and the site has been rehabilitated.

A 132kV high voltage electricity transmission easement has also been constructed between SHWEF and a new 500 kV Terminal Station some 70 kilometres to the south of the wind farm project. The line has separate permits for native vegetation approval. The line has been constructed by AusNet Services and is owned and operated by AusNet Services.

2.4 SHWEF Project Land

The land on which the SHWEF is located is rural land with mostly gently sloping terrain, where Stockyard Hill and Nanimia Hill are elevated features within the project area. The land does also rise to the north of the project area. Lower elevation areas occur between the turbine groups including the large expanse of Lake Goldsmith on the western side of the Skipton Road. The land in the vicinity of Stockyard Hill is characterized by the former volcanic structure at this location with a crater lake to the east of Stockyard Hill Road and land sloping away from the rim of the crater lake. There are also areas of irregular drainage pattern that is generally typical of areas of volcanic terrain in Western Victoria.

The locations of the four turbine groups are shown on Figure 2.1, the pink shaded areas are lands that are within the project area. The SHWEF infrastructure impacts only a small part of the project lands.

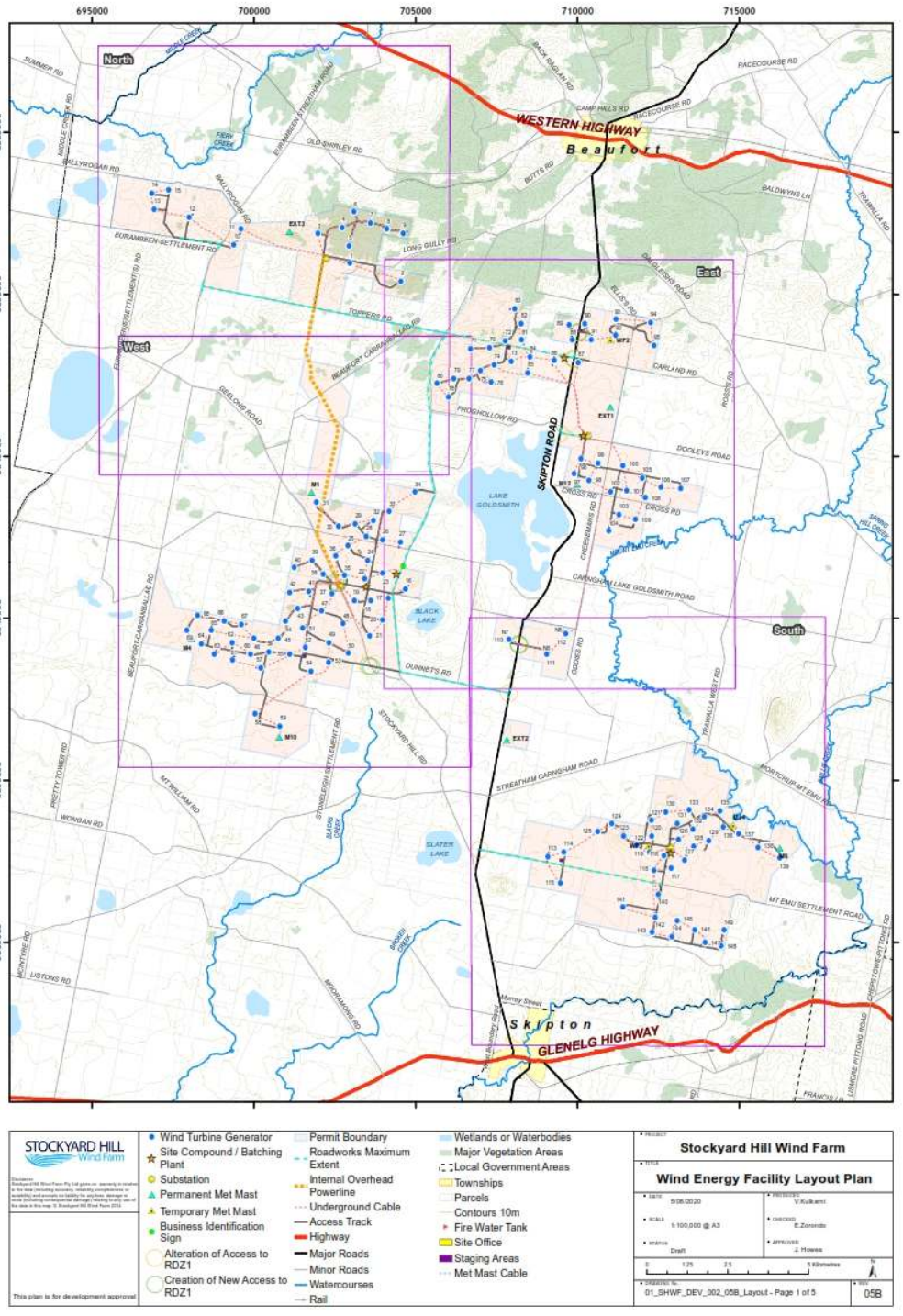

Figure 2.1 – Stockyard Hill Wind Energy Facility Project Layout – August 2020

3 DETAILS OF SHWEF PROJECT AND DEVELOPMENT STATUS

3.1 Approved Action

The EPBC Approval 2016/7746 allows the following Approved Action:

> *To develop and operate the Stockyard Hill Wind Farm and associated infrastructure in south-west Victoria, approximately 150 km west, northwest of Melbourne and approximately 35 km west of Ballarat [see EPBC 2016/7746].*

The SHWEF layout (Figure 2.1) comprising 149 wind turbines, has been constructed generally consistent with the referral for EPBC 2016/7746.

The SHWEF project comprising 149 wind turbines has been subject to micro-siting that has not materially increased the impacts on biodiversity.

The details of the SHWEF project being implemented are outlined below in the context of the compliance reporting provided in this document.

3.2 Details of Wind Turbines

The project comprises 149 wind turbines. These are a combination of Goldwind's Permanent Magnet Direct Drive design (models GW140/3000, GW140/3400 and GW140/3570) with a total wind farm generating capacity of approximately 530 MW.

The wind turbines have key dimensions as follows:

- a maximum height (to highest point of rotor swept area) of 180 meters above ground level,
- a hub height of approximately 109 metres,
- The three bladed rotors are approximately 140 metres in diameter.

Near the base of each wind turbine tower are:

- an external kiosk-style 33kV Ring Main Unit (RMU)
- two banks of cooling fans. Cooling fluid circulates between the cooling fan units and the internal areas of the tower and turbine.
- A compacted hardstand area has been formed at each wind turbine site, for use by large cranes installing turbines and for component laydown during construction. These hardstands are retained for the operations phase in case large cranes are required for maintenance activities.

No aviation safety lighting is required on the wind turbines. Lighting is provided at the entry to each wind turbine tower. The wind turbines are off-white/grey with non-reflective finish as required by the Victorian Planning Permit.

3.3 Substation details

Three 132kV/33kV substations are located in the West, East and South Turbine Groups. A 33kV switchyard is located in the North Group and a 10 km 33kV transmission line provides connection of the North Group to the West Substation. The grid connection infrastructure (three substations and a switchyard) is sited at locations that avoid impacts on native vegetation. These infrastructure elements comprise:

- Switch-rooms that receive 33 kV cables from each of the wind farm's collector groups.

- 33kV/132kV transformers are located at each of the three 33kV/132kV substations. The transformers are located in concrete bunds that provide containment for any oil spill or leakage
- landing gantry for conductors from substation to cut-in poles for the 132kV-kV transmission lines.
- Control rooms housing battery banks and electrical control equipment.
- Various electrical protection and power quality equipment.
- Security fencing around the substations.
- Earthing grid below gravel cover for substation compounds, and
- Country Fire Authority (CFA) 4 m fuel reduction zone around the 3 substations and switchyard.

3.4 Other permanent infrastructure

The wind farm design also includes facilities as described below:

- Access track network from the site entry to all turbine sites and the substation sites (Figure 2.1), comprising approximately 101 km of trackwork.
- 33 kV collections circuits comprising 33kV underground cables between groups of turbines and the respective substation for the Group. Communications and control cables are co-located with the 33kV cables.
- An approximate 10 km section of 33kV overhead line links the North Group to the West Group.
- A Main Operations and Maintenance facility is located within the West Turbine Group adjacent, Stockyard Hill Road:
    - a compound surrounded by security fencing and including parking for service team;
    - a building providing office desks, computer and communications facilities and amenities. A septic system is provided at the location;
    - a warehouse with minor workshop.
- Three remote facilities are necessary for the East, South and North Groups that provide meal room facilities and amenities for service personnel at these remote locations. Small Warehouses are also located at the East and South Substations.
- None of the substation or O&M/remote facilities are located in areas of native vegetation.

3.5 Temporary construction infrastructure

The wind farm design also allowed for temporary construction infrastructure including:

- Construction compounds at each turbine group – to be removed when construction activities are completed. None are located in areas of native vegetation.
- Two batch plant sites (eastern and western sites) – Batch Plants now removed from site.

3.6 Status of SHWEF Works

Preliminary investigative works occurred in early 2018. Initial construction works commenced on 22 May 2018 (as per notification to DAWE on 4 June 2018). The project layout is shown in Figure 2.1. The full access network had been completed approximately 18 months later, by approx. end of 2019. All wind turbines were installed by early December 2020. Rehabilitation of the civil works has been ongoing and continues in 2021.

For this reporting period (Year 3 of the Action, to 21 May 2021), the project was in the construction phase through to December 2020 after which testing of wind turbines occurred for the rest of the report period. Full commissioning of individual turbines was only possible following Grid registration of SHWF in early July 2021. Commissioning of turbines will ramp up over the latter half of 2021 and, potentially into early 2022. Full operations may commence in late 2021 or early 2022 subject to progress through Grid hold points.

4 EPBC Approval Conditions and Proponent Responses

4.1 Overview of the EPBC Approval requirements

This report addresses the 3rd Year since commencement of the Action and, reviews compliance with:

- Conditions 1 to 15 of EPBC Approval 2016/7746 (Section 4 and Appendix A), and
- the implementation of any strategies required by this approval (Sections 4, and 5), specifically:
    - Condition 2b, Striped legless Lizard Offset Management Strategy
    - Condition 3b, Golden Sun Moth Offset Management Strategy

The review is supported by the SMEC Reports listed below that provide the substantive evidence of compliance with the EPBC Approval Conditions and the Offset Management Strategy requirements.

- SHWF Striped Legless Lizard Population Monitoring (Year 3) SMEC, 25 March 2021
- SHWF Golden Sun Moth Population Monitoring Report (Year 3) SMEC, 23 February 2021

A summary of the compliance status for each of the Conditions is set out in Appendix A. The following parts of Section 4 provide further compliance details, additional to the summary detail in Appendix A.

A summary of compliance for implementation of management strategies, under Conditions 2b and 3b, is also described in Section 4. Full details are provided in the attachments.

A number of conditions are not applicable to the current reporting period, as indicated in this report.

4.2 Condition 1(a) – Striped Legless Lizard Habitat

Condition 1(a) requires that:

The approval holder must not clear more than, 42.16 ha of habitat for Striped legless lizard.

SMEC 2020, reviewed the extent of final construction disturbance within the area of Striped Legless Lizard Habitat and reported that the total extent is 41.40 hectares, which is less than specified in Condition 1(a) by 0.76 hectares.

Accordingly, the works are compliant with requirements of Condition 1(a). No further ground disturbance works is required.

4.3 Condition 1(b) – Golden Sun Moth Habitat

Condition 1(b) requires that:

The approval holder must not clear more than, 1.57 ha of habitat for Golden Sun Moth.

SMEC 2020, reviewed the extent of final construction disturbance within the area of Golden Sun Moth Habitat and reported that the total extent is 1.26 hectares, less than specified in Condition 1(b) by 0.31 hectares.

Accordingly, the works are compliant with requirements of Condition 1(b). No further ground disturbance works is required.

4.4 Condition 2(a) – Covenant secured for Striped Legless Lizard Habitat

Condition 2(a) requires that:

To compensate for the loss of 42.16 ha of striped legless lizard habitat, the approval holder must secure the striped legless lizard offset with a covenant before commencement of construction;

In respect of securing a covenant for the Striped legless lizard offset, the details were reported in the 2019 Annual Compliance Report. In summary, the offset has been secured under a DELWP landowner agreement (BB-3036-LA01). As part of DELWP's oversight of the compliance with Offset management requirements, DELWP has previously undertaken a site audit of the covenant and management actions and details were outlined in the 2020 Annual Compliance Report.

As described above, the requirements of Condition 2(a) have been previously complied with.

4.5 Condition 2(b) – Implementation of SLL Offset Management Strategy

Condition 2(b) requires that:

To compensate for the loss of 42.16 ha of striped legless lizard habitat, the approval holder must implement the Striped Legless Lizard Offset Management Strategy for the secured striped legless lizard offset.

Components of the SLL OMS implementation for Years 1 and 2 were reported in the 2019 and 2020 Compliance Reports respectively. It is noted that SMEC has been engaged by SHWFPL to undertake SLL monitoring and review of actions under the OMS that are described for Year 3 in Appendix B (SMEC March 2021). The landowner separately engages Aus Eco Solutions to undertake maintenance including direct seeding and rehabilitation works within the Offset Site, as required. The landowner and SHWFPL are jointly involved with the implementation of the Strategy. DELWP also undertook a site audit in June 2020 and details were provided in the Year 2 Compliance Report.

Table 4.1 SHWF SLL Offset Management Strategy - Year 3 Actions and Status (Appendix B)

Action	Management Action	Responsible	Timing	Date Completed
3.1	Undertake fencing repairs, as required	Landowner (under SHWFPL supervision)	Ongoing as required	20/10/2018. No repairs for Year 3
3.2	Commence direct seeding in Zones 1b, 1c, 2b and 3b	SHWFPL, ecologist and its contractors	Autumn/Spring	Direct seeding June 2020.
3.3	Conduct site preparation weed control for rehabilitation works in Zones 2a and 3a	SHWFPL and landowner	October-November	Spot spraying by landowner on 3 Dec 2020. Follow-up needed in 2021
3.4	Undertake SLL monitoring at five existing sites within onsite offset site	Suitably qualified ecological specialist	September to November 2020 Year 3 (Figure 2 of Appendix B), 7 Tile Grids, two extra added in 2020.	Completed 2 Oct 2020 to 8 Dec 2020
3.5	Undertake detailed vegetation monitoring within Zones 1a, 1b, 2a and 3a	Suitably qualified ecological specialist	December-February Site Survey 14Jan21 (Figure 4 Appendix B)	Completed Jan 2021
3.6	Monitor populations of pest animals and conduct control works if required	SHWFPL and landowner	After peak breeding season - late summer/early autumn	Completed May 2020
3.7	Monitor and assess works and prepare a summary report	Suitably qualified ecological specialist	Two months after SLL vegetation monitoring is completed. Report will include summary of rehabilitation / weed control works	Completed March 2021- Appendix B

Year 3 Action 3.1 - Undertake fencing repairs as required surrounding offset area to ensure SSL offsite sites are secure.

Fencing was established by Aus Eco on 20 October 2018. The fencing is maintained by the landowner and SHWFPL reviews status. No fencing repairs were needed for Year 3.

Year 3 Action 3.2 - Commence direct seeding in Zones 1b, 1c, 2b and 3b

SMEC 2021 (Appendix B) reported that Direct Seeding took place over four days during June 2020 and that the seeding took place at separate locations to plantings undertaken in 2019 (Aus Eco Solutions 2020). Year 4 will review results of the seeding.

Year 3 Action 3.3 – Conduct site preparation weed control for rehabilitation works in Zones 2a and 3a.

SMEC 2021 (Appendix B) indicated that Spot spraying by landowner occurred on 3 December 2020 and that more effort was required for Zones 2a and 3a in 2021.

Year 3 Action 3.4 – Undertake SLL monitoring at five existing sites within onsite offset site, including two additional grids added in 2020 (being Tile Grid 6 and 7 as shown in Figure 2 of Appendix B).

The monitoring was completed between 02 October 2020 and 8 October 2020. Results are provided in SMEC, March 2021 and identified three SLL, two at Tile Grid 3 and one at Tile Grid 6. This was the highest abundance of the Species recorded for the Offset Site at the time.

Year 3 Action 3.5 - Undertake detailed vegetation monitoring within Zones 1a, 1b, 2a and 3a (Fig. 4 of Appendix B).

SMEC completed vegetation monitoring by January 2021. SMEC (March 2021) assessed the cover of native species as having increased since Year 1 with small patches of native grassland (Plains Grassland EVC 132) and wetland (Plains Grassy Wetland EVC 125) present throughout the Site.

Year 3 Action 3.6 – Monitor populations of pest animals and conduct control of works if required

SMEC March 2021 (Appendix B) in Section 4.2.2.2, indicated that the landholder had observed low pest activity on-site and, that as indicated by Aus Eco Solutions 2020, the landholder had suggested that the Dunnets Road upgrade (adjacent northern boundary of the offset site) and the removal of the Gorse adjacent Dunnets Road has reduced numbers of pest animals on site. It was indicated that a pest animal spotlight shooting session undertaken in late Autumn 2020 showed low pest animal activity.

Year 3 Action 3.7 – Monitor and assess works and prepare summary report

SMEC undertook monitoring and assessment of the works including consultation with landowners and provided a detailed report dated, 25 March 2021 (Appendix B).

The DELWP audit report 2020 alluded to possible variations in the site management regime that have since been addressed by a revised SLL OMS (Aug 2021) notified to DAWE for implementation from 4 August 2021 (from Year 4, not applicable for the current report period).

Requirements of Condition 2(b) in relation to Year 3 Management Actions for the SLL OMS have been satisfied.

4.6 Condition 3(a) – Covenant secured for Golden Sun Moth Habitat

Condition 3(a) requires that:

To compensate for the loss of 1.57 ha of golden sun moth habitat, the approval holder must secure the golden sun moth offset with a covenant prior to commencement of construction. The golden sun moth offset must contain at least 9 ha of known golden sun moth habitat (Figure 2).

In respect of securing a covenant, for Golden Sun Moth offset, SHWFPL, entered into a Two-Party Agreement for an area 300 metres by 300metres (9 hectares) details of which were provided with the First Year Annual Compliance Report. The agreement is referred to as Asset BBA-3027 – Landowner Agreement No LA02, Bush Broker Site Plan – BB-3027/LA02-01.

As described above, the requirements of Condition 3(a) have been previously complied with.

4.7 Condition 3(b) – Implementation GSM Offset Management Strategy

Condition 3(b) requires that:

To compensate for the loss of 1.57 ha of golden sun moth habitat, the approval holder must implement the Golden Sun Moth Offset Management Strategy for the secured golden sun moth offset.

Details of responses to Year 3 management actions specified in Table 2 of the Strategy are provided in SMEC February 2021 (Appendix C), and key points are summarized in Table 4.2.

Table 4.2 SHWF GSM Offset Management Strategy - Year 3 Actions and Status (Appendix C)

Action	Management Action	Responsible	Timing	Date Completed
3.1	Conduct weed control	Landowner	Species dependent	Ongoing, managed by landowner over 3 years
3.2	Monitor populations of pest animals and conduct works if required	SHWF and contractors	After peak breeding season – late summer/early autumn	Reduced numbers after 3 years
3.3	Conduct monitoring for GSM	Suitably qualified ecological specialist	Three years after commencement of OMS (SMEC Mar 2021)	Completed Nov 20- Jan 21. SMEC Mar 2021, 477 Male GSM recorded
3.4	Maintain fences	SHWF and contractors	As required	Fencing is maintained
3.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/fuel reduction plan if appropriate	SHWFPL/landowner/CFA	Summer/Autumn (or as required as part of adaptive management)	Completed. SMEC Mar 2021. Grazing regime but no burn.
3.6	Monitor and assess works (no report required for this year, however an assessment report prepared by SMEC is provided in Appendix C)	Suitably qualified ecological specialist	Three years after commencement of OMS	Completed. A report of monitoring was provided SMEC 2021

Year 3 Action 3.1 – Conduct weed control

The landowner is arranging for the required weed controls and performance is subject to site audits by DELWP. SMEC, February 2021 (Appendix C) indicates that there is a focus on high threat weed species with ongoing treatment Brown-top Bent, Cape Weed, Spear Thistle (*Cirsium vulgare*), Cat's Ear and Yorkshire Fog. Additionally, SMEC indicates that a new weed species of concern, South African Weed-orchid (*Disa bracteata*) has also been identified by the landowner in proximity to the offset site and the species is indicated as difficult to detect and manage due to the life form traits of the species. SMEC has recommended further discussions with DELWP or Agriculture Victoria to confirm best practice methods for the species. Ongoing attention to management of weeds is needed for the Offset area.

Year 3 Action 3.2 - Monitor populations of pest animals and conduct control works if required

Pest animal management has been undertaken by the landowner over Years 1 to 3 and SMEC February 2021, indicates that Pest animal control in earlier years has been effective.

Year 3 Action 3.3 – Conduct Monitoring for GSM 3 years after commencement of strategy

Monitoring by SMEC occurred over 4 separate days between 30 November 2020 and 14 January 2021. A total of 477 male GSM was recorded, indicating that a high number of GSM are persisting across the Offset Site.

Year 3 Action 3.4 - Maintain fences

Fencing to the west and south is being maintained. Internal offset perimeter fencing to the north and east of the offset site has been removed given that a new offset site is now immediately adjoining the Site shown on Plan BB-3027/LA02-01.

Year 3 Action 3.5 - Monitor Biomass density implement stock grazing regime or develop ecological burn / fuel reduction if appropriate

The landowner has responsibility for managing these aspects. SMEC March 2021 (Appendix C) has reviewed the Offset Site in respect of 4 zones and described condition and grazing requirements. Due to over 300mm of rainfall between October 2020 and January 2021 increased biomass was indicated by SMEC 2021 as warranting additional grazing or controlled burn to better manage the offset area. The revised GMS OMS to apply for Year 4 introduces a more flexible regime to manage variations in biomass aligned with an adaptive management approach.

Year 3 Action 3.6 - Monitor and assess works (progress report not required for Year 3)

Section 3.2 of the SMEC Report (Appendix C) provides details of the Offset management and GSM monitoring and includes recommendations for improved management.

Full details of responses to the Year 3 Actions for the GSM OMS are provided in Appendix C prepared by SMEC.

Requirements of Condition 3(b) in relation to Year 3 management actions of the GSM OMS have been satisfied.

4.8 Condition 4 – Notify Commencement

Condition 4 requires that.

Within 14 days after the commencement of construction, the approval holder must advise the Department in writing of the actual date of commencement of construction.

SHWFPL submitted a letter to the Department, on 4 June 2018, notifying commencement of construction on 22nd May 2018.

No further requirements apply for Condition 4.

4.9 Condition 5 – Maintain records of all activities

Condition 5 requires that:

The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the strategy required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act or, used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.

This is an ongoing requirement, is applicable for this reporting period and has been complied with.

4.10 Condition 6 – Annual Compliance Reporting

Condition 16 requires that:

Within three months of every 12 month anniversary of the commencement of construction, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any strategies as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. Reports must remain published for the life of the approval. The approval holder must continue to publish reports until such time as advised in writing by the Minister.

In response to Condition 6, SHWFPL has:

- Prepared this third annual compliance report, required by Condition 6.
- Published this report on website as per link here: https://stockyardhillwindfarm.com/
- Provides evidence to the Department of proof of publication (email direct to Department).

4.11 Condition 7 – Revision of Strategies

Condition 7 requires that:

The approval holder may choose to revise a strategy approved by the Minister under conditions 2 and 3 without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised strategy would not be likely to have a new or increased impact. If the approval holder makes this choice they must:

i. notify the Department in writing that the approved strategy has been revised and provide the Department with an electronic copy of the revised strategy

ii. implement the revised strategy from the date that the strategy is submitted to the Department; and

iii. for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised strategy would not be likely to have a new or increased impact.

During the report period neither of the strategies approved under Condition 2(b) and 3(b) have been revised. During preparation of this report, SHWFPL has obtained revisions of both of the strategies (under conditions 2 and 3) and submitted them to the Department on 4 August 2021, in accordance with the requirements of 7(i), (ii) and (iii) and, will be implemented from that date. Details of performance in relation to the revised strategies will be provided in the Year 4 Report.

4.12 Condition 8 – Revocation of choice under Condition 7

Condition 8 requires that:

The approval holder may revoke their choice under condition 7 at any time by notice to the Department. If the person taking the action revokes the choice to implement a revised strategy, without approval under section 143A of the Act, the strategy approved by the Minister must be implemented.

Condition 8 was not triggered during the 2021 report period. Its requirements are noted by SHWFPL.

4.13 Condition 9 – Condition 7 may not apply if including change to environmental offsets

Condition 9 requires that:

Condition 7 does not apply if the revisions to the approved strategy include changes to environmental offsets provided under the strategy in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the Minister. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised strategy would, or would not, be likely to have new or increased impacts.

Condition 9 was not triggered during the 2021 report period. Its requirements are noted by SHWFPL.

4.14 Condition 10 – Minister advises revised strategy has a new or increased impact

Condition 10 requires that:

If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the revised strategy would be likely to have a new or increased impact, then:

i. *Condition 7 does not apply, or ceases to apply, in relation to the revised strategy; and*
ii. *The person taking the action must implement the strategy approved by the Minister.*

To avoid any doubt, this condition does not affect any operation of conditions 7 and 8 in the period before the day the notice is given.

Condition 10 was not triggered during the 2021 report period. Its requirements are noted by SHWFPL.

4.15 Condition 11 – Minister may notify that Condition 7 does not apply for specified time

Condition 11 requires that:

At the time of giving the notice the Minister may also notify that for a specified period of time that condition 7 does not apply for the strategies required under the approval.

Condition 11 was not triggered during the 2021 report period. Its requirements are noted by SHWFPL.

4.16 Condition 12 – Conditions 7 and 8 not limit the operation of Section 143A of EPBC Act

Condition 12 requires that:

Conditions 7 and 8 are not intended to limit the operation of section 143A of the EPBC Act which allows the person taking the action to submit a revised strategy to the Minister for approval.

Condition 12 is noted by SHWFPL. No further response is required for this report.

4.17 Condition 13 – Not Commenced after 5 years of Approval Date

Condition 13 requires that:

If, at any time after 5 years from the date of this approval, the approval holder has not commenced the action, then the person taking the action must not commence the action without the written agreement of the Minister.

The project commencement and Action under the Approval occurred on 22 May 2018, within 5 years of the approval date and, there are no further requirements of the Condition that are applicable to the project.

4.18 Condition 14 – Publish all strategies on website

Condition 14 requires:

Unless otherwise agreed to in writing by the Minister, the approval holder must publish all strategies referred to in these conditions of approval on their website.

In response to Condition 14, SHWFPL has published the following documents on the project website (https://stockyardhillwindfarm.com/).

- Condition 2(b) – Striped Legless Lizard Revised Offset Management Strategy (published August 2021);
- Condition 3(b) – Golden Sun Moth Revised Offset Management Strategy (published August 2021);
- Annual Compliance Report May 2018 to May 2019, published August 2019;
- Annual Compliance Report May 2019 to May 2020, published August 2020.

A request to post this August 2021 Annual Compliance Report on the SHWF Website will be made at time of its submission to the Department.

4.19 Condition 15 – Provision of Strategies to public upon request

Condition 15 requires that:

Unless otherwise agreed to in writing by the Minister, the approval holder must provide a copy of any strategy referred to in these conditions of approval to members of the public upon request, within a reasonable time of the request.

No such requests have been received for the reporting period and no copies of strategies needed to be provided. It is noted that the strategies referred to in the conditions of approval, are in accordance with Condition 14, published on the project website.

5 IMPLEMENTATION OF THE MANAGEMENT STRATEGIES

The compliance requirements for implementation of the Striped legless Lizard Offset Management Strategy (Condition 2(b)) are outlined in Section 4.5 of this report and Appendix B (SMEC February 2021).

The compliance requirements for implementation of the Golden Sun Moth Offset Management Strategy (Condition 3(b)) are outlined in 4.7 of this Report and Appendix C (SMEC March 2021).

6 CONCLUSIONS

This report provides the relevant details required for satisfying requirements of Condition 6 of the EPBC Approval 2016/7746 for the 3rd year after commencement of the Action on 22 May 2018.

The report addresses:

- status of compliance with conditions of the EPBC approval, and
- status of implementation of the SLL and GSM Offset Management Strategies required by Conditions 2(b) and 3(b) of the approval.

SHWFPL concludes that all compliance requirements have been met for the Year 3 Period as described in this Report. No instances of non-compliance have been identified for the reporting period.

Based on results of Year 3 Actions and assessments, variations to the two Offset Management Strategies have been made and were notified to the Department on 4 August 2021. Electronic copies of the revised strategies were also provided to the Department on 4 August 2021. Implementation of the revised strategies has been assessed by a qualified ecologist from SMEC as unlikely to have a new or increased impact. Implementation will occur from 4 August 2021.

7 REFERENCES

DAWE	EPBC Approval 2016/7746 approved on 18 August 2017.
DELWP	Permit No: Pl-SP/05/0548/B as amended 23 July 2018
SMEC	SHWF EPBC Act Compliance Reporting Year 2, 21 August 2020
SMEC	SHWF SLL Population Monitoring (Year 3), 25 March 2021
SMEC	SHWF GSM Population Monitoring Report (Year 3), 23 February 2021

Other references are referred to in the text of this report or its attachments, in relation to specific aspects addressed by this report.

8 APPENDICES

Appendix A – Table showing compliance status for each Condition of EPBC Approval 2016/7746.

Appendix B – SHWF SLL Population Monitoring (Year 3), SMEC 25 March 2021

Appendix C - SHWF GSM Population Monitoring Report (Year 3), SMEC 23 February 2021

Appendix A - Stockyard Hill WF –EPBC Approval (EPBC 2016/7746) - Review of Compliance with Approval Conditions – Report August 2021

Ref	part	Details of Condition	Stage	Compliance	Details for demonstrating compliance for report period May 2020 to May 2021
1	The approval holder must not clear more than:				
	a	42.16 ha of habitat for striped legless lizard; and	Planning and Construction	Compliant (Complete)	Civil works within areas of known striped legless lizard habitat were completed at the end of the reporting period. SMEC, 2020 has advised that the impact on the area of known striped legless lizard is 41.40 ha impacted and is less than the 42.16Ha allowed under Condition 1(a). Refer to Annual Compliance Report 2020, SMEC (August 2020)
	b	1.57 ha of habitat for golden sun moth,	Planning and Construction	Compliant (Complete)	Areas of known Golden Sun Moth (GSM) habitat were to the extent practicably possible, avoided during construction. All civil works in the area of known GSM is complete and a recent survey concluded that approximately 1.26 ha was disturbed (less than 1.57 ha allowed under Condition 1(b). Refer to Annual Compliance Report 2020, SMEC (August 2020).
2	To compensate for the loss of 42.16 ha of striped legless lizard habitat, the approval holder must:				
	a	secure the striped legless lizard offset with a covenant before commencement of construction; and	Before construction	Compliant (Complete)	A Section 69 covenant was executed by the landowner and signed by DELWP.A Credit Trade Agreement is in place and was forwarded to DELWP prior to construction commencing. Evidence of securing the SSL offset was included as Attachment 2a of the Annual Compliance Report, 2019.
	b	implement the Striped Legless Lizard Offset Management Strategy for the secured SLL offset. *(For 2021 Report - As per Year 3 Actions 3.1 to 3.7* *Further details in Section 4.5 and Appendix B)*	Construction / Operations	Compliant - ongoing	Actions undertaken to comply with Year 3 requirements for the SLL Offset Management Strategy, Table 6.10, Management Actions Table 4 include: 3.1 – Fencing established 20 October 2018. No fencing repairs required for Year 3 3.2 – Direct seeding occurred in June 2020 (Different locations to 2019 plantings) 3.3 –Spot spraying by landowner in December 2020, Follow-up needed to manage weeds in 2021. 3.4 – SLL monitoring occurred 20 Oct 2020 to 8 Dec 2020. Three SLL identified. 3.5 – Detailed vegetation monitoring was completed in January 2021. Vegetation cover increased since Year 1. 3.6 – Observations indicate low pest animal activity, controls applied. 3.7 – SMEC prepared a detailed Report dated March 2021 provided as Appendix B

Ref	part	Details of Condition	Stage	Compliance	Details for demonstrating compliance for report period May 2020 to May 2021
3	To compensate for the loss of 1.57 ha of golden sun moth habitat, the approval holder must:				
	a	secure the GSM offset with a covenant prior to commencement of construction. The GSM offset must contain at least 9 ha of known GSM habitat and	Before construction	Compliant (Complete)	A Section 69 covenant has been executed by the landowner and signed by DELWP.A Credit Trade Agreement is also in place, which was forwarded to DELWP in advance of construction commencing. Evidence of securing the SSL offset was included as Attachment 3a of the 2019 Report.
	b	implement the Golden Sun Moth Offset Management Strategy for the secured golden sun moth offset. *(For 2021 Report - As per Year 3 Actions 3.1 to 3.6* *Further details in Section 4.5 and Appendix C)*	Construction / Operations	Compliant	Management Actions undertaken to comply with Year 3 requirements for the GSM Offset Management Strategy included those listed in Table 2 of the Strategy for Year 3. A summary of responses is provided in Section 4.7 of this report and details in Appendix C: 3.1 - Conduct weed control – Managed by landowner, SMEC review in Appendix C. 3.2 - Monitor populations of pest animals and conduct control works if required. Reduced numbers after three years, see Appendix C. 3.3 - Conduct Monitoring for GSM after 3 years of commencement of strategy. Reported in SMEC February 2021. 477 male GSM recorded for 2020/2021. 3.4 – Maintain fences, Fences satisfactorily maintained. 3.5 – Monitor Biomass density implement stock grazing regime or develop ecological burn / fuel reduction if appropriate – Controlled grazing regime maintained but no burn undertaken. See Appendix C 3.6 – Monitor and assess works No report required for Year 3 but was provided. (SMEC February 2021 see Appendix C)

		Administrative	Stage	Compliance	Details demonstrating compliance May 2020 to May 2021
4		Within 14 days after the commencement of construction, the approval holder must advise the Department in writing of the actual date of commencement of construction.	At the start of construction	Compliant	A letter advising the Department was sent by David Rogers on 4 June 2018 advising commencement of construction activities in Dunnett's Lane as of 22 May 2018.
5		The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the strategy required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an	Construction / Operations	Compliant /Ongoing	Records are kept documenting implementation of the EPBC approval requirements and approved strategies. The required documentation will be maintained for the duration of the approval. The information provided with this report represents part of the records of activities, specifically in relation to this report period.

		Administrative	**Stage**	**Compliance**	**Details demonstrating compliance May 2020 to May 2021**
		independent auditor in accordance with section 458 of the EPBC Act or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicized through the general media.			
6		Within three months of every 12-month anniversary of the commencement of construction, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any strategies as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. Reports must remain published for the life of the approval and must continue to be published until advised in writing by the Minister.	Annually	Complaint	A record of compliance with the requirements of the EPBC approval, as provided in the 2019 and 2020 Reports has been placed on the SHWF Website. Arrangements for this 2021 Report to be published on the SHWF website will be made at the same time as the report is submitted to the Department.
7		The approval holder may choose to revise a strategy approved by the Minister under conditions 2 and 3 without submitting it for approval under section 143A of the EPBC Act, if the taking of the action under the revised strategy would not be likely to have a new or increased impact. If the approval holder makes this choice they must:	At any time	N/A	SHWFPL prepared revised GSM and SSL Offset Management Strategies after the 2020/2021 Report period
	i	notify the Department in writing that the approved strategy has been revised and provide the Department with an electronic copy of the revised strategy;			SHWFPL provided notification and electronic copies of the revised strategies to the Department on 4 August 2021. The revised strategies will be implemented from 4 August 2021 and reporting for Year 4 (Annual Compliance Report 2022) will address requirements of the revised strategies.
	ii	implement the revised strategy from the date that the strategy is submitted to the Department; and			
	iii	for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised strategy would not be likely to have a new or increased impact.	Construction / Operations	N/A	Any changes to the management strategies must have adequate records kept for the duration of the approval which substantiate the change. No changes were made during Year 3 and so no requirements applied for Condition 7(iii) during the Year 3 report period.
8		The approval holder may revoke their choice under condition 7 at any time by notice to the Department. If the person taking the action revokes the choice to implement a revised strategy. without approval under section 143A of the Act, the strategy approved by the Minister must be implemented.	At any time	N/A	Not applicable for Year 3 Reporting

		Administrative	**Stage**	**Compliance**	**Details demonstrating compliance May 2020 to May 2021**
9		Condition 7 does not apply if the revisions to the approved strategy include changes to environmental offsets provided under the strategy in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the Minister. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised strategy would, or would not, be likely to have new or increased impacts.	At any time	N/A	Not applicable for Year 3 Reporting
10		If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the revised strategy would be likely to have a new or increased impact, then:	At any time	N/A	Not applicable for Year 3 Reporting
	i	Condition 7 does not apply, or ceases to apply, in relation to the revised strategy; and			
	ii	The person taking the action must implement the strategy approved by the Minister.			
	iii	This condition does not affect any operation of conditions 7 and 8 in the period before the day the notice is given.			
11		At the time of giving the notice the Minister may also notify that for a specified period that condition 7 does not apply for the strategies required under the approval.	At any time	N/A	Not applicable for Year 3 Reporting
12		Conditions 7 and 8 are not intended to limit the operation of section 143A of the EPBC Act which allows the person taking the action to submit a revised strategy.	At any time	N/A	Not applicable for Year 3 Reporting
13		If, at any time after 5 years from the date of this approval, the approval holder has not commenced the action, then the person taking the action must not commence the action without the written agreement of the Minister.	Construction/Operations	Compliant	N/A – the action has commenced (DAWE notified on 22 May 2018). No further requirements under this Condition
14		Unless otherwise agreed to in writing by the Minister, the approval holder must publish all strategies referred to in these conditions of approval on their website.	At any time	Compliant	Copies of the approved and revised SSL and GSM strategies, are available on the Stockyard Hill Wind Farm Webpage. https://www.stockyardhillwindfarm.com.au/planningprocess
15		Unless otherwise agreed to in writing by the Minister, the approval holder must provide a copy of any strategy referred to in these conditions of approval to members of the public upon request, within a reasonable time of the request	At any time	Complaint	To date, there has been no member of the public request a copy of any strategy referred to in EPBC Approval. However, copies of the strategies are available on the SHWF project webpage. Copies can be made available promptly on request to SHWFPL.

Appendix B

SHWF Striped Legless Lizard Population Monitoring (Year 3) SMEC, 25 March 2021

SMEC
Member of the Surbana Jurong Group

SMEC INTERNAL REF. 30043025N

Stockyard Hill Wind Farm Pty Ltd

Striped Legless Lizard Population Monitoring (Year 3)

Reference No. 30043025N
Prepared for Goldwind Australia Pty Ltd
25 March 2021

Document Control

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Revision No.	Date	Prepared By	Reviewed By	Approved for Issue By
1	2 March 2021	Andrew Taylor	Catriona McCallum	Jenna Forbes
2	25 March 2021	Andrew Taylor	Brigette Gwynne	Jenna Forbes

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Important Notice

This report is confidential and is provided solely for the purpose of understanding population dynamics of Striped Legless Lizard (***Delma impar***) at an offset site associated with the Stockyard Hill Wind Farm Pty Ltd. This report is provided pursuant to the agreement between SMEC Australia Pty Limited ("SMEC") and Goldwind Australia Pty Ltd, under which SMEC undertook to perform a specific and limited task for Goldwind Australia Pty Ltd. This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. SMEC makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

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The report supersedes all previous draft or interim reports, whether written or presented orally, before the date of this report. This report has not and will not be updated for events or transactions occurring after the date of the report or any other matters which might have a material effect on its contents, or which come to light after the date of the report. SMEC is not obliged to inform you of any such event, transaction or matter nor to update the report for anything that occurs, or of which SMEC becomes aware, after the date of this report.

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Time of year

The detailed vegetation assessment of the offset site was undertaken in January 2021. Mid-summer is considered a less optimal time of year for conducting vegetation surveys as many ephemeral flora species have finished flowering. However, most vegetative and senescent reproductive material is still visible in the absence of annual pasture grasses which have finished flowering and subsequently set seed (particularly native tussock species which are most prevalent at the offset site).

The timing of Striped Legless Lizard surveys was extended to 8 December 2020. While this was not the proposed timing of surveys (October-November), it is still considered to be an appropriate time of year to detect the species using tile grids methodology.

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Acronyms

Acronyms	Description
CaLP Act	*Catchment and Land Protection Act 1994*
CMA	Catchment Management Authority
DAWE	Department of Agriculture, Water and the Environment
DELWP	Department of Environment, Land, Water and Planning
DEPI	Department of Environment and Primary Industries (now DELWP)
DoEE	Commonwealth Department of the Environment and Energy (now DAWE)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EVC	Ecological Vegetation Class
Guidelines	*Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017)
ha	Hectares
cm	Centimetres
km	Kilometres
LGA	Local Government Authority
m	Metres
sp.	Species (one species)
spp.	Species (more than one species)
SVL	Snout-vent Length

1 Introduction

1.1 Background

SMEC Australia Pty Ltd (SMEC) was commissioned by Goldwind Australia Pty Ltd (Goldwind) to undertake Striped Legless Lizard (***Delma impar***) habitat management and species monitoring as part of the Stockyard Hill Wind Farm Pty Ltd project (the project). The project was approved under the ***Environmental Protection and Biodiversity Conservation Act 1999*** (EPBC Act) by the Department of Agriculture, Water and the Environment (DAWE) on 19 August 2018. The project will consist of the construction of 149 approved wind turbines located approximately 35 km west of Ballarat, Victoria.

It is understood that the DAWE post-approvals team have approved the 10-year Offset Management Strategy (OMS) for Striped Legless Lizard prepared by Ecology and Heritage Partners Pty Ltd (EHP 2018), subject to conditions (Approval Decision EPBC 2016/7746). The conditions outlined within the Offset Management Strategy and project approvals set out how impacts to Striped Legless Lizard listed under Sections 18 and 18A of the EPBC Act will be mitigated and managed to acceptable levels.

This includes, but is not limited to, the following key criteria under Approval Decision EPBC 2016/7746:

1. ***The approval holder must not clear more than:***
   (a) **42.16** ha of habitat for Striped Legless Lizard.
2. ***To compensate for the loss of 42.16 ha of striped legless lizard habitat, the approval holder must:***
   (a) Secure the Striped Legless Lizard offset with a covenant before commencement of construction; and
   (b) Implement the Striped Legless Lizard Offset Management Strategy for the secured Striped Legless Lizard offset.
3. ***Monitoring surveys are to be undertaken in accordance with Departmental guidelines.***

Impacts pertaining to the project will therefore be managed through a 43 ha onsite offset site which is located on private property to the south of Dunnets Road, Stockyard Hill, Victoria (the '***offset site***') (Figure 1). Given the confirmed presence of Striped Legless Lizard within the offset site between September-November 2017 and known records within the Dunnets Road reserve, the offset site provides an opportunity to enhance and manage long-term conservation objectives for the species.

The site comprises rocky rises with embedded rock, native tussock grasses, herbs and introduced pasture grasses. An interesting component of this approved offset site will be the rehabilitation of approximately 50% of the site where areas have been previously cropped as part of historical land-use practices (in which they are devoid of vegetation and embedded rock). Rehabilitation will be undertaken via direct seeding methods using a suitably qualified and experienced contractor (Aus Eco Solutions) who are familiar with the implementation of this method in Victoria.

1.2 Project objectives and scope

The broader objectives for the project are in accordance with the approved OMS which requires Goldwind and the landowner to complete the following (EHP 2018):

- ***Protect and secure the offset site for the long term conservation of Striped Legless Lizard;***
- ***Maintain and enhance grassland habitat for the extant Striped Legless Lizard population;***
- ***Control and, if possible, eliminate pest plants and animals; and***
- ***Achieve a high level of ecologically sound on-ground management, monitoring and reporting.***

The objectives of Striped Legless Lizard monitoring and implementation of the OMS in Year 3 included:

- Completion of Striped Legless Lizard monitoring in accordance with suitable survey methodology;
- Providing advice on biomass and grazing management regimes;
- Undertaking detailed vegetation monitoring to ascertain the quality and extent of native vegetation on site;
- Identifying areas of focused management activities with respect to pest plant and animals; and
- Provision of a Year 3 summary report detailing the monitoring results specific to the objectives of the OMS.

1.3 Offset site

The offset site is south of Dunnets Road and covers 43 ha, approximately 180 km west of Melbourne and 35 km west of Ballarat (Figure 1). The property covers Lot 1 and Lot 2 on Title Plan 761464V. The offset site has historically been used for rotational grazing by sheep and cropping activities.

The offset site occurs within the Victorian Volcanic Plain bioregion, Pyrenees Shire Council municipality and Glenelg Catchment Management Authority (CMA) (DELWP 2021a). The offset site is zoned Farming Zone (FZ) within the Pyrenees Planning Scheme and an Environmental Significance Overlay – Schedule 1 (ESO1) applies for the protection and enhancement of water quality within the designated water supply catchment (DELWP 2021b).

FIGURE 1. Study Site Location

FIG NO. 1 **FIGURE TITLE** Study Site Location

DATE 07/03/2019

0 0.125 0.25
1:10,000 Km

PAGE SIZE A3

COORDINATE SYSTEM GDA 1994 MGA Zone 55

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SMEC
Member of the Surbana Jurong Group

PROJECT NO. 30041817

PROJECT TITLE Striped Legless Lizard Offset Monitoring Site Stockyard Hill, Victoria

CREATED BY AE13763

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Location: L:\Work\GIS\Projects\30041817 - Stockyard Hill Wind Farm\GIS Files\MXD\Figure 1 - Stockyard Hill Wind Farm.mxd

Last updated by: AE13763 on 7/03/2019 at 13:59

2 Striped Legless Lizard

2.1 Conservation Status

EPBC Act: Vulnerable
FFG Act: Threatened
Victorian Advisory List: Endangered

2.2 Description

Striped Legless Lizard is a pale-grey lizard up to 30 cm in length with a series of stripes on their sides and the sides of their back, becoming diagonal bands on the tail (TSSC 2016). Superficially, these animals resemble snakes, but can be readily distinguished from the latter by the presence of external ear openings, a fleshy undivided tongue and a tail which is longer than the body (TSSC 2016).

Image 1. Striped Legless Lizard (Source: A. Taylor, SMEC, 2018)

2.3 Distribution

Striped Legless Lizard is a grassland specialist, found only in areas of native grassland and nearby grassy woodland (sometimes in exotic pasture). They occur in the dryer plains found west of the great divide in both Victoria (Volcanic Plain) and south-eastern NSW (TSSC 2016).

In Victoria, remaining habitat is very limited and severely fragmented. Most recently, the species has been recorded from areas west and north of Melbourne, surrounding Ballarat, near Cressy in the Western District and in roadside remnants in south western Victoria (TSSC 2016).

2.4 Habitat

Striped Legless Lizard is known to inhabit lowland native grasslands and grassy woodlands, typically dominated by native tussock-forming grass species such as Kangaroo Grass (***Themeda triandra***), spear grasses (***Austrostipa*** spp.) and Poa tussocks (***Poa*** spp.). The species also inhabits a range of temperate grasslands, including areas dominated by introduced grass species and at sites with a history of grazing and pasture improvement (SEWPaC 2011a).

While the specific habitat requirements for the Striped Legless Lizard are not fully understood, all sites occupied by the species have a grassy ground cover, often with a mixture of native and exotic perennials and annuals. The species shelters in grass tussocks, thick ground cover, soil cracks, under rocks, spider burrows and underground debris such as timber. Embedded rock is a key feature within the Victorian Volcanic Plain, and also one that is often removed for agricultural purposes, which greatly limits the habitat available for this species. As a result, roadsides and rail corridors are often the most undisturbed habitat where rocks and native grass species have been left in place (SEWPaC 2011a).

2.5 Key threats

The principal threats to Striped Legless Lizard include loss, degradation, modification and fragmentation of habitat through:

- Urban development;
- High intensity grazing by livestock and kangaroos;
- Ploughing and pasture improvement including use of superphosphate and sowing of introduced species;
- Rock collection or destruction;
- Spread of exotic grasses;
- Predation by cats and foxes; and
- Inappropriate burn timing of grasslands including urban and roadside reserves and travelling stock reserves (TSSC 2016).

3 Methods

3.1 Striped Legless Lizard Monitoring

3.1.1 Survey permits

Striped Legless Lizard monitoring was undertaken in accordance with a Research Permit approved by the Department of the Environment, Land, Water and Planning (DELWP) under the ***Wildlife Act 1975*** (Permit 10008716). All animal handling was in accordance with SMEC's Standard Operating Procedure (SMEC 2020a), and Wildlife and Small Institutions Animal Ethics Committee (WSIAEC) approval 22.16.

3.1.2 Survey methods

3.1.2.1 Reference documents

Striped Legless Lizard monitoring was undertaken in accordance with the following DAWE departmental guidelines:

- Referral guidelines for the vulnerable Striped Legless Lizard, ***Delma impar*** (SEWPaC 2011a); and
- Survey guidelines for Australia's threatened reptiles (SEWPaC 2011b).

3.1.2.2 Field methods

The following field methodologies were completed as part of Year 3 population and habitat monitoring for Striped Legless Lizard (Figure 2):

- Collection of data on Striped Legless Lizard population dynamics at Tile Grids 1-5 by suitably trained observers;
- Each of Tile Grids 1-5 consisted of 50 tiles, at 5 m spacing between tiles, arranged in a grid of 10 x 5 array;
- Tile Grids 1-5 were checked a minimum of six times between October and November, two additional Tile Grids 6 and 7 deployed in 2019 were also checked at the same intervals (**Note:** Year 3 monitoring extended into December 2020), when ambient temperatures did not exceed 28°C;
- Checking more frequently than twice a week was avoided as it may lead to Striped Legless Lizard abandoning the artificial shelters; and
- Information such as the date, time and weather conditions were recorded for each survey event.

3.2 Detailed vegetation monitoring

Detailed vegetation monitoring was undertaken to obtain data on the quality and quantity of native grassland within the offset site. The results of vegetation monitoring are used to support the enhancement of existing areas of native vegetation through the guided management of biomass and weed control activities. Fixed photo points will also be utilised by Goldwind and the landowner in selected areas to visually record successive changes over the 10-year monitoring period. All surveys were conducted by qualified personnel who are Vegetation Quality Assessment accredited by DELWP.

This Year 3 monitoring and progress report will document the following components required by the OMS:

- Overall assessment of the quality and quantity of vegetation and composition of species (Habitat Hectare assessment if applicable);
- Biomass levels;
- The extent and presence of current weed species and any new and emerging weed species; and
- Map areas of scattered native vegetation to assist with management.

3.3 Biomass density and stock grazing

Biomass control within the offset site is managed through low-intensity rotational grazing by sheep. All sheep are to be removed (or excluded via fencing from the offset site) during the critical flowering/reproductive period for native species (September to February). The reintroduction of grazing may return to reduce biomass levels over autumn and winter (March to August). No ecological burns are proposed within Years 1-4 and therefore will not be reported during the Year 3 management period. Biomass control via stock grazing remains a key management item for the site and is discussed in more detail in Section 4.3 below.

FIGURE 2. Striped Legless Lizard Monitoring Year 3

FIG NO. 2 **FIGURE TITLE** Striped Legless Lizard Monitoring Year 3

DATE 16/01/2020

0 0.03 0.07 0.13
Km
1:5,000

PAGE SIZE A3

COORDINATE SYSTEM GDA 1994 MGA Zone 55

PROJECT NO. 30042115

PROJECT TITLE Striped Legless Lizard Monitoring Site Stockyard Hill, Victoria

CREATED BY AR15136

SOURCES World Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Last updated by: AR15136 on 16/01/2020 at 9:38

3.3.1 Biomass actions

Biomass control will proceed in accordance with the following:

- Ensure adequate grazing to reduce biomass to acceptable cover levels (i.e. 70%);
- Spell offset site containing current rehabilitated grassland areas from approximately late September through to late January; and
- Co-ordinate weed control works with the grazing regime.

3.3.2 Performance measures

The following key performance targets have been provided to measure the success of the biomass control:

- Vegetation cover is maintained at greater than 70% throughout the offset site;
- Availability of bare ground for native flora species recruitment is between 20% and 40%;
- Striped Legless Lizard populations are not reduced;
- A diversity of native open ground cover flora species is maintained and enhanced;
- No evidence of an increase in soil pugging; and
- The maintenance of open structured Plains Grassland community suitable for the ecological requirements of Striped Legless Lizard.

3.4 Fixed photo points

SMEC and Aus Eco Solutions assisted with the deployment of 10 fixed photo points within the offset site in October 2018. This comprised five points within rocky rises containing modified grassland vegetation with the remaining five points to be set-up within areas proposed for rehabilitation works (Figure 3).

The timing of annual fixed-point and aerial (drone) photograph assessments were undertaken between 10 and 11 December 2020 although did not coincide with proposed OMS timing for native vegetation assessments (i.e. October). However, given the extensive rainfall and associated biomass growth rates in spring, the results of the January vegetation assessment and December aerial imagery is considered unlikely to have significantly altered the outcomes of the results. Future monitoring will aim to assess weed and biomass cover, native vegetation extent and quality and the progress of rehabilitation works at the similar intervals from a visual and management perspective.

3.5 Reporting

3.5.1 Landowner progress reports

Regular progress and monitoring reports will be submitted separately in Years 1, 3, 5, 7, 9 and 10 of the program with input from the landowner and Aus Eco Solutions. The reports will summarise all completed management activities (i.e. revegetation, pest animal and weed control etc.), which will be submitted to the relevant authorities for review (DAWE and DELWP), including:

- Completion of the management actions table detailing actions fulfilled during Year 3 monitoring (Section 5);
- Landowner monitoring and reporting forms (or similar documentation provided by Aus Eco Solutions);
- Results of weed and pest animal control work;
- Successful management tools (e.g. techniques used to control weed species, monitoring technique, etc.);
- Any problems or issues experienced (e.g. new infestation of weed species, etc.); and
- Photographs showing evidence of works.

FIGURE 3. Vegetation Monitoring (Year 1)

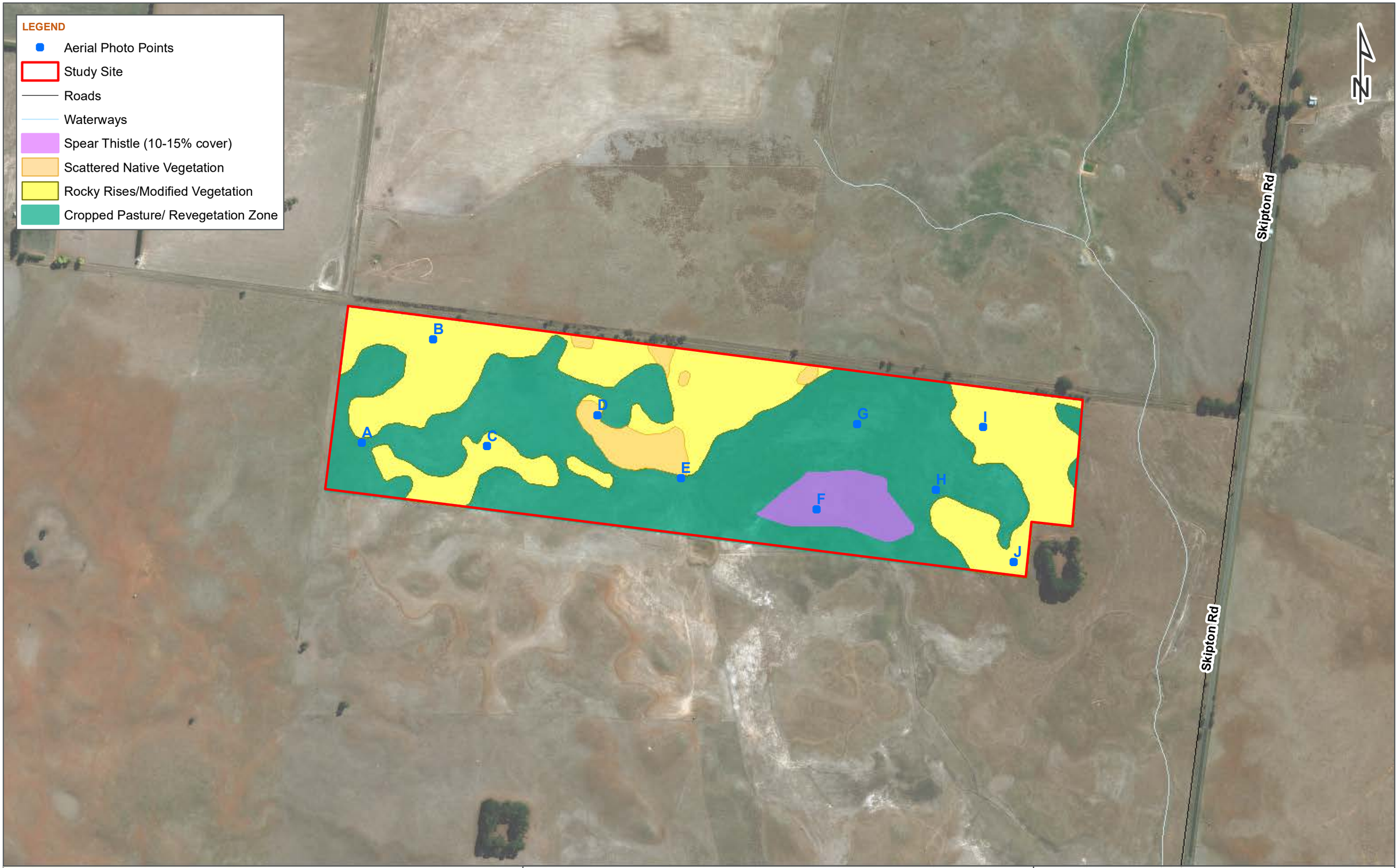

FIG NO. 3 **FIGURE TITLE** Vegetation Monitoring (Year 1)	**DATE** 29/03/2019	0 0.075 0.15 Km 1:6,360	**PAGE SIZE** A3	**COORDINATE SYSTEM** GDA 1994 MGA Zone 55
PROJECT NO. 30041817 **PROJECT TITLE** Striped Legless Lizard Monitoring Site Stockyard Hill, Victoria	**CREATED BY** AM20078	**SOURCES** Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community		

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Location: L:\Work\GIS\Projects\30041817 - Stockyard Hill Wind Farm\GIS Files\MXD\Figure 3 - Vegetation Monitoring (Year 1).mxd

Last updated by: AM20078 on 29/03/2019 at 14:39

4 Results

4.1 Striped Legless Lizard monitoring

4.1.1 Survey results

Monitoring was undertaken over six separate days across the offset site between October and December 2020 (Table 1). Weather conditions during monitoring events were considered suitable for the detection of Striped Legless Lizard. Three adult Striped Legless Lizard were recorded during Year 3 monitoring results based on morphological data collected at the offset site. Two adult individuals were detected at Tile Grid 3, the location where the species had been detected during previous monitoring (Figure 2, SMEC 2020b, EHP 2018). One adult Striped Legless Lizard was detected at Tile Grid 6, a new siting for this tile grid (as discussed in more detail in Section 4.1.2 below). No additional Striped Legless Lizard were observed for the remainder of monitoring across Tile Grids 1, 2, 4, 5 and 7.

Four additional fauna species comprising Eastern Blue-tongue Lizard (***Tiliqua scincoides***), Little Whip Snake (Parasuta flagellum), Striped Marsh Frog (***Limnodynastes tasmaniensis***) and House Mouse (***Mus musculus***), were also recorded (Table 1). Several juvenile Eastern Blue-tongue Lizard were observed at Tile Grids 5 and 7 which indicates active breeding by this species within the offset site.

Photographs of all fauna captured during the Year 3 monitoring are provided in Appendix A (excluding House Mouse which was not photographed).

Photographs of each Tile Grid are presented in Appendix B between October and December at Survey 1 (2 October 2020) and Survey 6 (8 December 2020).

Table 1: Monitoring survey results and weather conditions[1].

Survey no.	Survey Date	Time of Survey	Species	Tile Grid	Total	Temp. (°C)	Wind speed	Wind direction
1	02-10-2020	9:00-12:30pm	LWS EBTL (juv.) LWS	T1 T5 T6	1 1 1	13.3	33 km	N
2	30-10-2020	7:00-9:30am	LWS EBTL (juv.)	T3 T7	3 2	10.1	19 km	SE
3	10-11-2020	7:30-10:00am	LWS HM	T3 T6	1 1	17.2	7 km	NE
4	20-11-2020	7:30-10:00am	SLL(a) LWS	T3	1 1	12.6	16 km	SW
5	30-11-2020	8:00-10:30am	LWS SpMF	T3 T7	2 1	11.6	26 km	E
6	08-12-2020	8:30-10:30am	SLL(b) SLL(c)	T3 T6	1 1	10.2	17 km	W

Note: T = Tile Grid Number, SLL = Striped Legless Lizard, EBTL = Eastern Blue-tongue Lizard (juv. = juvenile), HM = House Mouse, LWS = Little Whip Snake, SpMF = Spotted Marsh Frog.

4.1.2 Striped Legless Lizard

4.1.2.1 Population dynamics

Morphological data including snout-vent length (SVL) and head scale photographs were recorded for all captured Striped Legless Lizard (Table 2). The sex of individuals was not determined during Year 3 monitoring.

Interestingly, assumptions made during previous monitoring at the offset site has indicated a variety of variations between the size and colouration of individuals (SMEC 2019, 2020b). In response to Year 3 monitoring, it can now be confirmed that at least two adult Striped Legless Lizard occupy habitat at Tile Grid 3. The presence of a likely juvenile individual during monitoring in 2020 provides further evidence that the species is likely to be breeding at Tile Grid 3 (SMEC 2020b). As noted, a third adult Striped Legless Lizard was detected at Tile Grid 6. Given the available morphological data and proximity to other known individuals, this is considered to be a separate individual to those detected at Tile Grid 3.

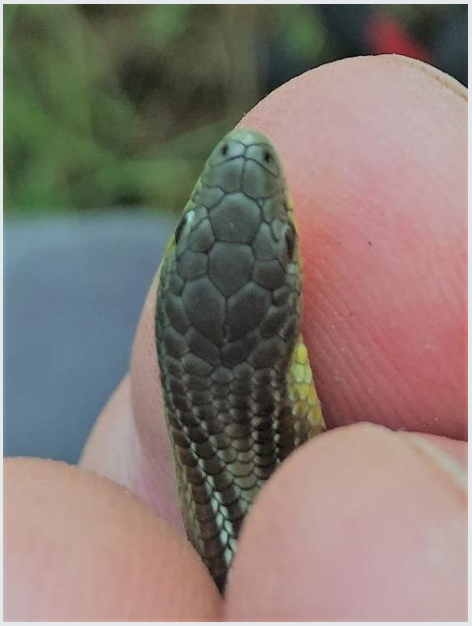
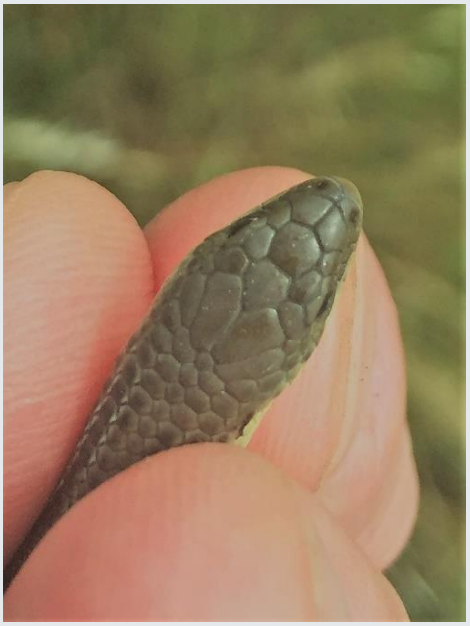
[1] Bureau of Meteorology: data sourced from Ballarat Aerodrome (Station 089002).

4.1.2.2 Relocated Striped Legless Lizard

One Striped Legless Lizard was captured in 2018 during vegetation removals along Dunnets Road and relocated approximately 65 m west from Tile Grid 4 (Appendix A; Photographs 7-8). In response to this, Tile Grid 6 was deployed at the indicative relocation site in 2020 and has been monitored annually since (SMEC 2020b).

No individual Striped Legless Lizard have been detected at Tile Grid 6 until 8 December 2020 during Year 3 monitoring (Table 2). Based on the proximity to which the individual was relocated and detected (<20 m) at Tile Grid 6 and the images provided (Appendix A, Photographs 7-10), it is possible this may be the relocated individual from Dunnets Road. However, it is important to note that head scale photographs were not taken when the individual was relocated from Dunnets Road and this assumption should be treated with some caution.

Table 2: Morphological data for Striped Legless Lizard captured in Year 3 monitoring.

SLL ID	SVL	Head scale photographs	Body image
SLL(a)	17 cm		
SLL(b)	24 cm		

SLL ID	SVL	Head scale photographs	Body image
SLL(c)	20 cm		

4.2 Detailed vegetation monitoring

4.2.1 Year 1

A total of 25 native and 25 introduced species were recorded during Year 1 assessments. Both site assessments were undertaken in what is considered a suitable time of year for conducting flora surveys as many ephemeral flora species and flowering parts are still visible (particularly the inflorescence of native grasses). A full list of species recorded during the detailed vegetation assessment are provided in Appendix C.

Vegetation within areas of rocky rises/modified vegetation was dominated by introduced pasture grasses, primarily Toowoomba Canary-grass (***Phalaris aquatica***) and Wild Oat (***Avena fatua***) (Figure 3). Introduced species comprised on average 80% cover across the offset site. The remaining comprised 10% native vegetation and 10% bare ground.

Native grassland species were scattered throughout the site, including Kangaroo Grass (***Themeda triandra***), Spear Grass (***Austrostipa*** sp), Drumsticks (***Pycnosorus globulus***), Yellow Rush Lily (***Tricoryne elatior***) and Bluebell (***Wahlenbergia*** sp.). Scattered Rush (***Juncus*** sp.) and Sedge (***Carex*** sp.) also occurred in depressions throughout the site. In the north of the offset site along the fence line, Blackwood (***Acacia melanoxylon***) was regenerating.

Cover of native vegetation within the offset site was not high enough to be considered a patch of native vegetation in accordance with '***The guidelines for the removal, destruction or lopping of native vegetation***' (DELWP 2017). That is, the site does not currently support any patches of Plains Grassland (EVC 132) under the Guidelines. Locations of scattered native vegetation are shown in Figure 3.

4.2.1.1 Pest plants

Two noxious weeds, Spear Thistle (***Cirsium vulgare***) and Horehound (***Marrubium vulgare***), listed under the ***Catchment and Land Protection Act 1994 (***CaLP Act) were identified within the offset site. Cover of Spear Thistle ranged between 10-15% within a single patch located on Figure 3. Horehound was recorded in small patches of ≤1%.

4.2.1.2 Pest animals

The presence of active European Rabbit (***Oryctolagus cuniculus***) warrens were noted during the site assessments. One additional warren was noted during Striped Legless Lizard monitoring and the landowner was notified of the location for future treatment. Management actions for pest animals to date are covered within Sections 2.2.5 and 4.2 of Aus Eco Solutions Spring report (2018).

4.2.2 Year 3

A SMEC ecologist attended the offset site on 14 January 2021 to undertake the year 3 detailed vegetation monitoring. A total of 20 native and 23 introduced species were recorded during the assessment.

The site assessments was undertaken in what is considered a suitable time of year for conducting flora surveys as many ephemeral flora species and flowering parts are still visible (particularly the inflorescence of native grasses). A full list of species recorded during Year 1 and 3 assessments are provided in Appendix C for comparison. Photographs of varying site conditions observed during the assessment are also provided within Appendix D.

Vegetation within areas of rocky rises/modified vegetation was still dominated by introduced pasture grasses, primarily Perennial Rye-grass (***Lolium perenne***), Toowoomba Canary-grass and Wild Oat (Figure 4). Introduced species comprised on average 70% cover across the offset site. The remaining comprised 15% native vegetation and 5% bare ground.

Cover of native species has increased since Year 1 monitoring was undertaken with small patches of native grassland (Plains Grassland EVC 132) and wetland (Plains Grassy Wetland EVC 125) present throughout the site. Accordingly, a Vegetation Quality Assessment (Habitat Hectares assessment) was undertaken for patches of native vegetation and results of this are presented in Table 3 below. Measuring the quality and extent of these habitat zones will be important in coming years of monitoring at the offset site.

Patches of Plains Grassland were dominated by Kangaroo Grass, Wallaby Grass (***Rytidosperma*** spp.) and Spear Grass. Herbs were scattered throughout the patches including Drumsticks, Yellow Rush Lily, Blue Devil (***Eryngium ovinum***), Australian Bindweed (***Convolvulus angustissimus***) and Bluebell. Patches of Plains Grassy Wetland were dominated by Common Blown-grass (***Lachnagrostis filiformis***), Wallaby Grass and Prickfoot (***Eryngium vesiculosum***). Grassy weeds were common in all patches of native vegetation.

Table 3. Results of Habitat Hectare assessment

EVC	132	125
Habitat Zone #	2	1, 3-5
Bioregion	VVP	VVP
Large Old Trees	n/a	n/a
Canopy Cover	n/a	n/a
Understorey	5	5
Weeds	2	6
Recruitment	3	3
Organic Litter	2	3
Logs	n/a	0
Subtotal (out of max. 75)	12	17
Multiplier for treeless EVCs	1.36	1.36
Adjusted subtotal (out of max. 75)	16.32	23.12
Patch Size	1	1
Distance to Core	0	0
Neighbourhood	0	0
Subtotal (out of max. 25)	1	1
Final Habitat Score (total out of 100)	17.36	24.12

*VVP stands for Victorian Volcanic Plain bioregion.

4.2.2.1 Pest plants

One noxious weeds, Spear Thistle, listed under the ***Catchment and Land Protection Act 1994 (***CaLP Act) was identified within the offset site during the Year 3 monitoring. The cover of Spear Thistle ranged between 10-15%, majority of which was confined to a single patch located on Figure 4. Management of Spear Thistle should continue to be prioritised so it can be completely removed from the offset site, and to avoid potential spread throughout the offset site.

Management of Spear Thistle was undertaken by the landowner on 3 December 2020 across the entire offset site but further spraying will be required. No additional weed control has been undertaken by Aus Eco Solutions (2020).

4.2.2.2 Pest animals

Low pest activity has been observed on-site by the landholder, who suggested that the Dunnets Road upgrade and the removal of the Gorse has reduced numbers of pest animals on site (Aus Eco Solutions 2020). A pest animal spotlight shooting session was undertaken in late autumn resulting in low pest animal activity (Aus Eco Solutions 2020).

4.2.2.3 Direct seeding

Direct seeding has been implemented into the offset sites previously cropped regions in the hope of successful germination of the species identified within the management plan, including Wallaby Grass, Wheat Grass, Common Tussock Grass and Spear Grasses (Aus Eco Solutions 2020). Direct seeding took place over four days during June 2020 within a separate section to the 2019 seeding. This is the second time that seeding was undertaken within the reserve (Aus Eco Solutions 2020).

Locally sourced seed was collected from the landholder's property in summer 2020 for Common Tussock Grass, which is found in high densities nearby the offset site (Aus Eco Solutions 2020). Kangaroo Grass is also being collected for installation onsite, as well as previously collected seed being cleaned in preparation for installation during warmer months (Aus Eco Solutions 2020).

4.3 Biomass density and stock grazing

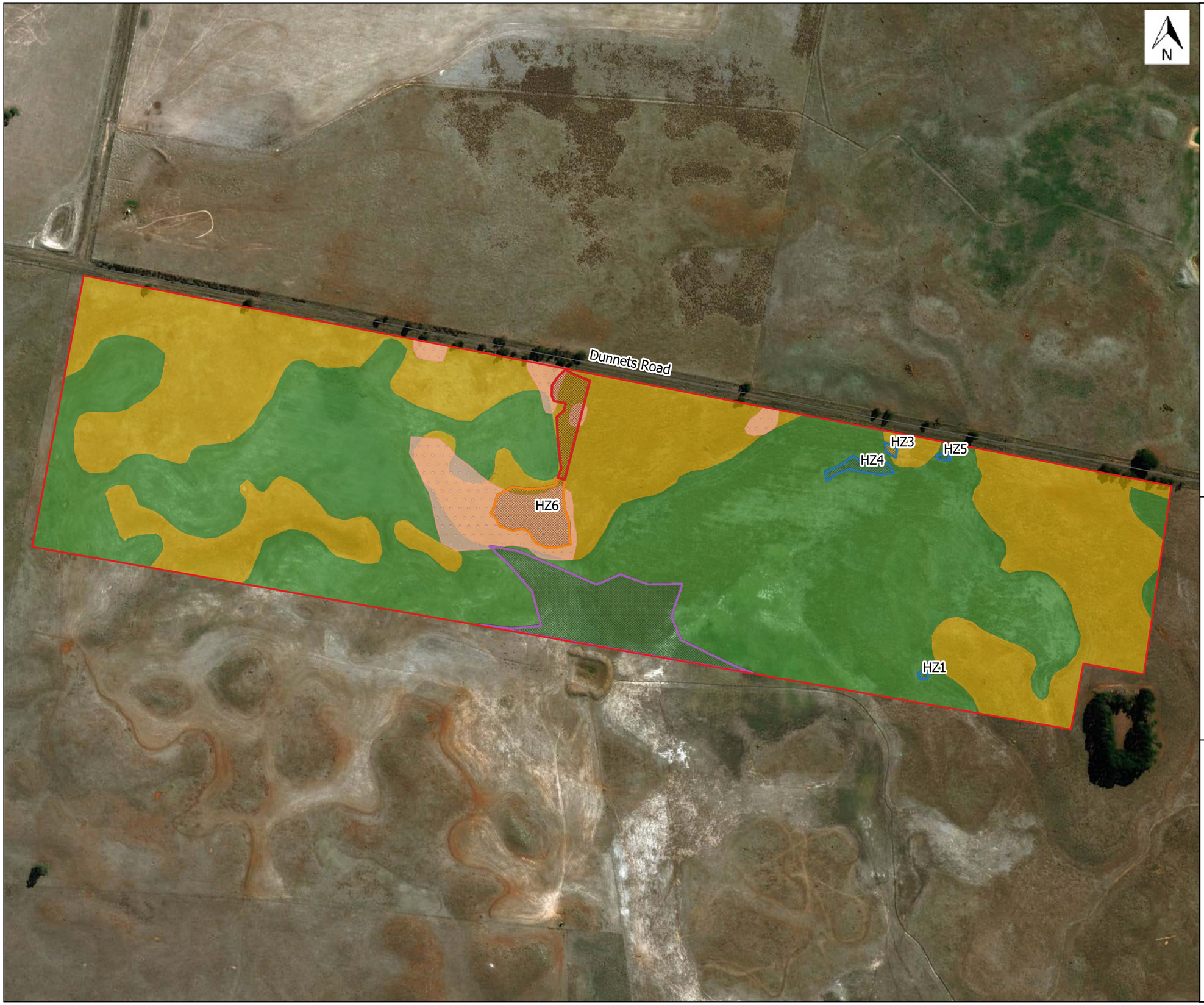
Two short periods of stock grazing was undertaken between 7 and 28 May 2020 and 17 July to 1 August 2020. However, the commencement of monitoring in October 2020 indicated the level of biomass was above near or greater than target levels of 70% in some areas (and bare ground to between 20-40%). For example, introduced species were notably higher with >90% cover (particularly locations across the rocky rises). This was reflected with low levels of 5% bare ground observed which are below targets for the offset site (ideally 20-40% bare ground).

Discussion with the landowners has identified limitations in the OMS with regards to stock grazing periods and the control of biomass (particularly in seasonally wet years as observed in the 2020/21 monitoring period). For example, biomass levels and the control of weeds during Year 3 monitoring could have been managed more intensely if stock grazing could have been extended to 30 September 2020 with additional short periods of crash grazing between October and January. This is in response to the offset site receiving over 300 mm of rainfall between October 2020 to January 2021 where the growth height of vegetation (particularly introduced pasture grasses) was notable during Year 3 monitoring.

Overall, it should be acknowledged that the response of natural environments and management of biomass needs to allow for more flexible grazing periods to respond to changing conditions in any given year (in accordance with **Section 6.2 – Adaptive Management Approach** in the OMS, EHP 2018). Allowing flexibility around the timing of stock grazing at the discretion of the landowner (in consultation with an ecologist) and DELWP is therefore recommended to maintain performance and completion criteria. This revised grazing proposal will need to be approved by DELWP and DAWE.

4.4 Fixed photo points

The results of fixed photo points for the 10 sites are provided in Appendix E and will provide a suitable reference point for monitoring the progress of management actions over the 10-year program. The location of photo points A to J are presented in Figure 3. Based on the level of work to date, there is no significant variation in the aerial images to date.



Legend

- Study Site
- Cropped pasture/revegetation zone
- Rocky rises/modified vegetation

Year 1

- Scattered Natives

Year 3

- Plains Grassland
- Plains Grassy Wetland
- Scattered Natives
- Spear Thistle Management Area

0 0.1 0.2 km

PAGE SIZE A3

FIGURE TITLE	Vegetation Monitoring (Year 3)
PROJECT TITLE	Striped Legless Lizard Monitoring Site, Stockyard Hill
PROJECT NO.	30043025N
DRAWING NO.	4
DATE	17-02-2021
CREATED BY	JH13976
SOURCES	ESRI

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4.5 Summary of monitoring

Table 4 outlines the monitoring results in response to targeted management objectives of the OMS.

Table 4: Summary of monitoring targets and survey outcomes.

Management objective	Target objective	Year 3 results	Recommendations
Striped Legless Lizard monitoring	Maintain grassland habitat by undertaking Striped Legless Lizard monitoring so that populations are not reduced.	Three individual Striped Legless Lizard confirmed between Tile Girds 3 (two individuals) and Tile Grid 6 (one individual). Highest abundance of the species recorded to date.	Continue to monitoring three individuals identified in Year 3 (including any new individuals in response to breeding activity). Recommendations in Section 6.1 are aimed to improve habitat quality for the species.
Detailed vegetation assessment	Record quantity and extent of native vegetation in accordance with DELWP (2017).	Cover of native species has increased since Year 1 with small patches of native grassland (Plains Grassland EVC 132) and wetland (Plains Grassy Wetland EVC 125) present throughout the site.	It is recommended that vegetation management by Aus Eco Solutions and the landowner focus on biomass, grazing and weed control activities within and adjoining areas noted to contain native vegetation patches (Figure 4). Continue to measure the quality and extent of these habitat zones within the offset site. Internal fencing recommended by Aus Eco Solutions is supported by DELWP, provided native vegetation is not destroyed during installation.
Biomass / grazing	70% grazing between March-August.	70-90% cover after two separate crash grazes undertaken between May and August 2020.	Focus biomass reduction in rocky rises in March-April 2021. Recommend future timing of stock grazing is flexible in response to annual site conditions to meet management targets.
Bare ground / recruitment	20-40% bare ground	5-10% bare ground	Due to the high level of biomass the availability of bare ground suitable for recruitment was below the required target. It is expected that more regular grazing will increase open ground for recruitment opportunities.

5 Management action summary

Table 5 summarises the management actions required for Year 3 of the OMS and date of completion.

Table 5: Management action summary for Year 3 OMS objectives.

Year	Action	Management action	Responsible authority / personnel	Timing of action	Date completed
1	1.1	Construct permanent fencing surrounding the property and ensure offset sites are secure.	Landowner (and Goldwind)	Within six months of this plan being approved by DAWE	20/10/2018 (Aus Eco Solutions 2018)
1	1.2	Conduct site preparation works for weeds in Zones 1b, 1c, 2b and 3b.	Landowner and Aus Eco Solutions (and Goldwind)	October-November	Dates included 07-10-2018 and 29-11-2018 (see Section 2.2.9, 2.3.0 and 4.3 of Aus Eco Solutions 2018)
1	1.3	Monitor populations of pest animals and conduct control works	Landowner and Aus Eco Solutions (and Goldwind)	After peak breeding season - late summer/early autumn	Dates included 4-11-2018, 28-11-2018 and 10-11-2018 (see Sections 2.2.5 and 4.2 of Aus Eco Solutions 2018)
1	1.4	Undertake SLL monitoring at five existing sites within offset site.	SMEC	September to November Year 3	19-12-2018
1	1.5	Monitor biomass density and implement stock grazing regime.	SMEC, landowner and Aus Eco Solutions	August-September	Late-October 2018
1	1.6	Undertake detailed vegetation monitoring within Zones 1a, 1b, 2a and 3a.	SMEC	December-February	November 2018 and February 2019
1	1.7	Monitor and assess works and prepare summary report.	SMEC	Two months after Striped Legless Lizard and vegetation monitoring is completed	March-April 2019
3	3.1	Undertaken fencing repairs as necessary	Landowner	Ongoing as required	No fencing repairs were noted by landowner.
3	3.2	Commence direct seeding in Zones 1b, 1c, 2b and 3b	Landowner and Aus Eco Solutions	Autumn/Spring	Direct seeding took place over four days during June 2020. The seeding took place at a separate location to plantings undertaken in 2019 (Aus Eco Solutions 2020).
3	3.3	Conduct site preparation weed control for rehabilitation works in Zones 2a and 3a	Landowner and Aus Eco Solutions	October-November	Spot spraying by landowner on 03-12-20. More effort required in 2021 in Zones 2a and 3a.
3	3.4	Undertake SLL monitoring at five existing sites within offset site. Inclusive of two additional grids added in 2020 (Tile Grids 6 and 7).	SMEC	September to November Year 3	Completed between 02-10-2020 to 08-12-2020.

Year	Action	Management action	Responsible authority / personnel	Timing of action	Date completed
3	3.5	Undertake detailed vegetation monitoring within Zones 1a, 1b, 2a and 3a.	SMEC	December-February	Completed January 2021
3	3.6	Monitor populations of pest animals and conduct control works if required	Landowner and Aus Eco Solutions	December-February	May 2020
3	3.7	Monitor and assess works and prepare summary report.	SMEC	Two months after Striped Legless Lizard and vegetation monitoring is completed	March 2021

6 Conclusion

Management actions in accordance with the endorsed OMS were undertaken for Year 3 by SMEC, Aus Eco Solutions and the landowner. Results of Striped Legless Lizard population monitoring indicate the offset site is supporting at least three adult individuals and the site supports an extant population of the species. Breeding activity at Tile Grid 3 is highly likely based on previous observations (SMEC 2020b). Four additional species were recorded within the offset site including Eastern Blue-tongue Lizard, Little Whip Snake, Spotted Marsh Frog and House Mouse. No additional mammal, reptile or frog species were recorded.

Detailed vegetation monitoring has also identified small patches of native grassland (Plains Grassland EVC 132) and wetland (Plains Grassy Wetland EVC 125). The quality and extent of these patches will be monitored in subsequent years to enhance these areas of native vegetation.

Overall, the site continues to maintain a high level of biomass, particularly rocky rises which supported the highest cover of pasture grasses. Biomass control will need to focus on rocky rises (Zones 1a, 1c and 2e) via rotation stock grazing in March and April 2021. Temporary fencing may be considered in Year 4 to reduce the cover of biomass to 70% particularly bare ground cover which is currently between 5-10% in these locations. Active management of Spear Thistle is also critical to reduce the overall cover to <1% across the offset site, areas identified in Year 3 monitoring will be a focus going forward in Year 4 monitoring.

Pest animals are currently being managed appropriately and will need to be monitored in subsequent years to avoid an increase in pest species numbers within the offset site.

Overall, it should be acknowledged that the response of natural environments and management of biomass needs to allow for more flexible grazing periods to respond to changing conditions in any given year (in accordance with **Section 6.2 – Adaptive Management Approach** in the OMS, EHP 2018). Allowing flexibility around the timing of stock grazing at the discretion of the landowner (in consultation with an ecologist) and DELWP is therefore recommended to maintain performance and completion criteria. This revised grazing proposal will need to be approved by DELWP and DAWE.

6.1 Recommendations

The following monitoring requirements will apply to Year 4 in accordance with the OMS:

- Undertake fencing repairs as required;
- Conduct focussed biomass control in rocky rises, specifically in Zones 1a, 1c and 2e;
- Conduct site preparation works for weeds in Zone 1a;
- Commence direct seeding in Zones 1b, 1c, 2b and 3b;
- Conduct site preparation weed control for rehabilitation works in Zones 1a, 2a and 3a;
- Conduct weed management works for rehabilitation Zones 1b, 1c, 2b and 3b;
- Deploy **five** additional Striped Legless Lizard monitoring sites within rehabilitated areas (**Note:** timing for this deployment may require further consideration pending the success of rehabilitation works); and
- Monitor populations of pest animals and conduct works as required.

6.2 Additional recommendations

The following are additional recommendations that are considered warranted for the improvement of baseline data and vegetation management activities across the offset site:

1. Focus biomass and weed control activities around patches of native vegetation to promote recruitment opportunities for Plains Grassland and (Figure 4);
2. Focus weed management on Spear Thistle as per indicative location shown in Figure 4;
3. Undertake stock grazing between March to August to reduce biomass back to required levels of 70% and increasing bare ground targets to 20-40% whilst maintaining native tussock heights at ≥30-40 cm;
4. Implement strategic stock grazing as necessary to maintain appropriate biomass and open ground cover. This may be required during the monitoring period of Striped Legless Lizard if environmental conditions are favourable high biomass growth (e.g. high rainfall with warm ambient temperatures during spring/summer);
5. Any variation to biomass management via crash grazing (outside the endorsed management plans) will require DELWP and DAWE approval. The revised grazing proposal should include details on the length of the extension (i.e. grazing period) and frequency (i.e. timing within applicable monitoring years); and
6. Any additional internal fencing to assist with the management of biomass and ecological values must be undertaken in a manner that does not destroy native vegetation during installation.

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8 Appendices

Appendix A Fauna detected during Year 3 monitoring

Photograph 1: Eastern Blue-tongue Lizard detected at Tile Grid 5 (02-10-2020).

Photograph 2: Little Whip Snakes detected at Tile Grid 3 (30-10-2020).

Photograph 3: Mammal nests and tunnels, various incidental locations.

Photograph 4: Spider tunnels at various incidental locations.

Photograph 5: Striped Legless Lizard SLL(a) detected at Tile Grid 3 (A, Taylor, SMEC, 08-12-2020).

Photograph 6: Striped Legless Lizard SLL(b) detected at Tile Grid 3 (A, Taylor, SMEC, 08-12-2020).

Photograph 7: Striped Legless Lizard relocated by Goldwind from Dunnets Road 28-06-2018 (1).

Photograph 8: Striped Legless Lizard relocated by Goldwind from Dunnets Road 28-06-2018 (2).

Photograph 9: Striped Legless Lizard SLL(c) detected at Tile Grid 6 (A, Taylor, SMEC, 08-12-2020 (1).

Photograph 10: Striped Legless Lizard SLL(c) detected at Tile Grid 6 (A, Taylor, SMEC, 08-12-2020 (1).

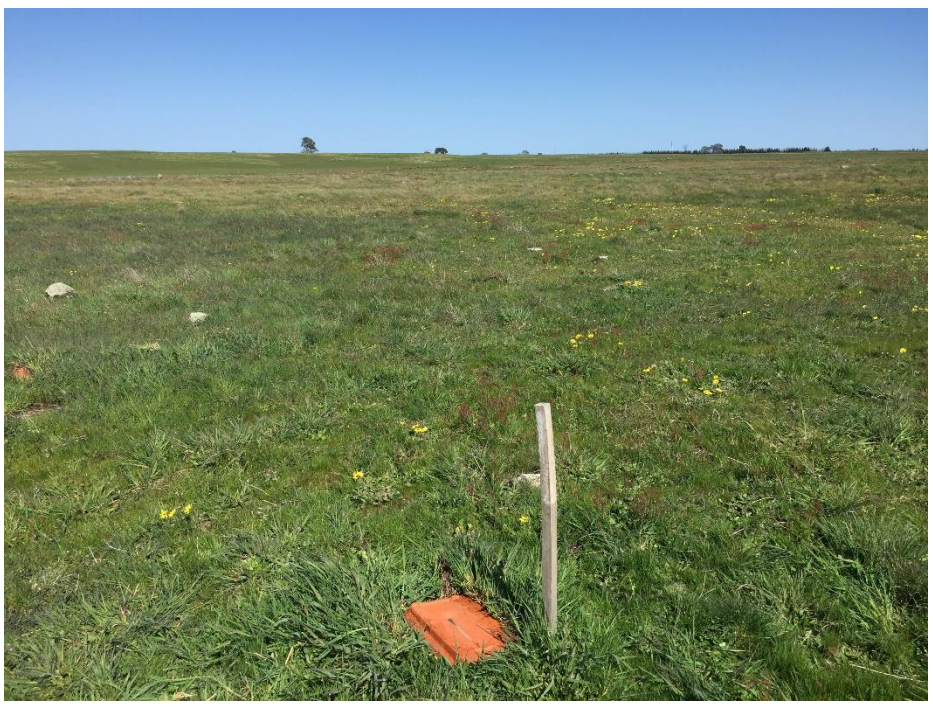
Appendix B Tile grid vegetation condition during Year 3 monitoring

Photograph 11: Tile Grid 1 – vegetation condition 2 October 2020.

Photograph 12: Tile Grid 1 – vegetation condition 8 December 2020.

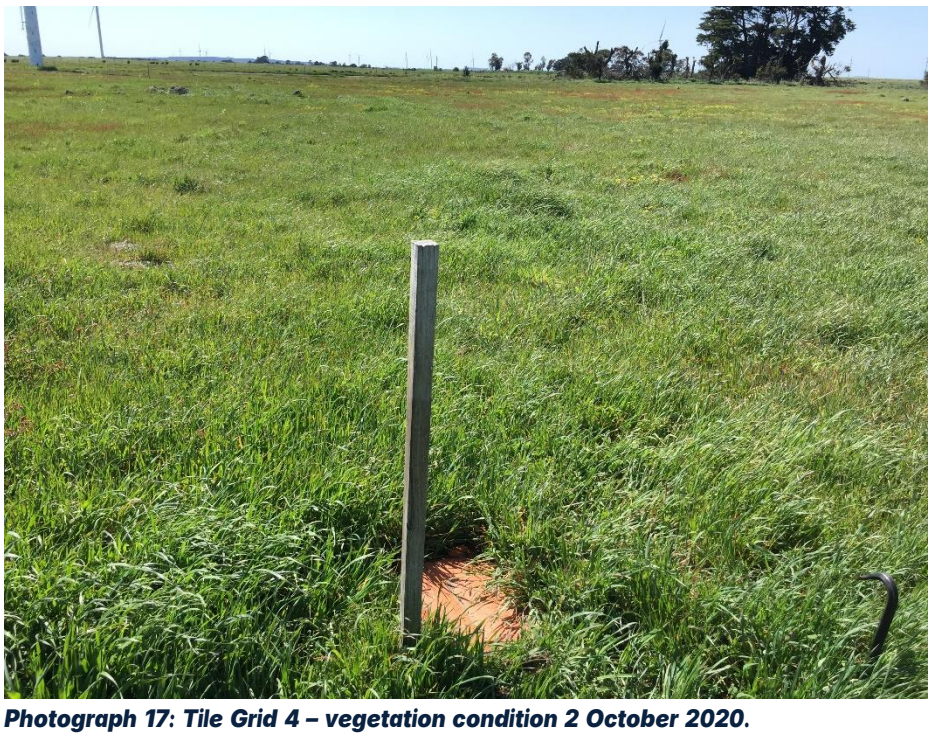
Photograph 13: Tile Grid 2 – vegetation condition 2 October 2020.

Photograph 14: Tile Grid 2 – vegetation condition 8 December 2020.



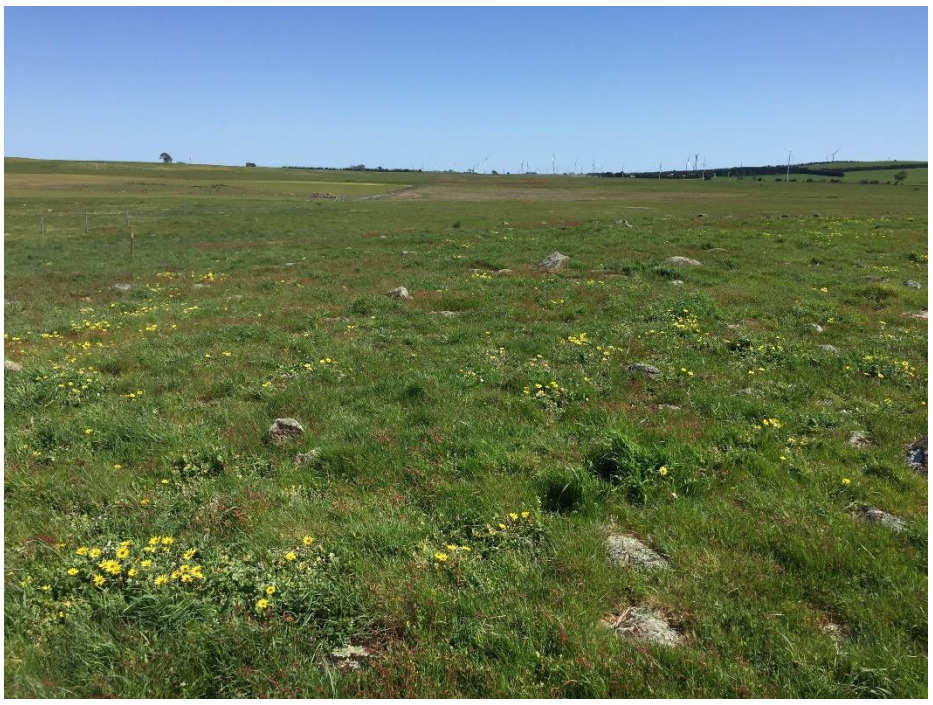
Photograph 15: Tile Grid 3 – vegetation condition 2 October 2020.

Photograph 16: Tile Grid 3 – vegetation condition 8 December 2020.



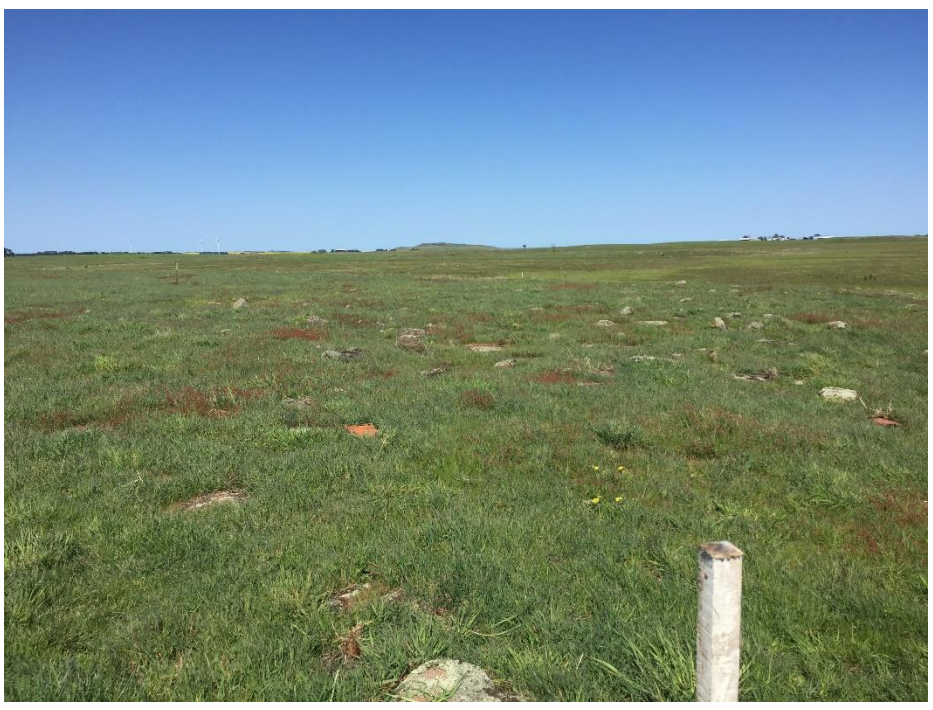
Photograph 17: Tile Grid 4 – vegetation condition 2 October 2020.

Photograph 18: Tile Grid 4 – vegetation condition 8 December 2020.



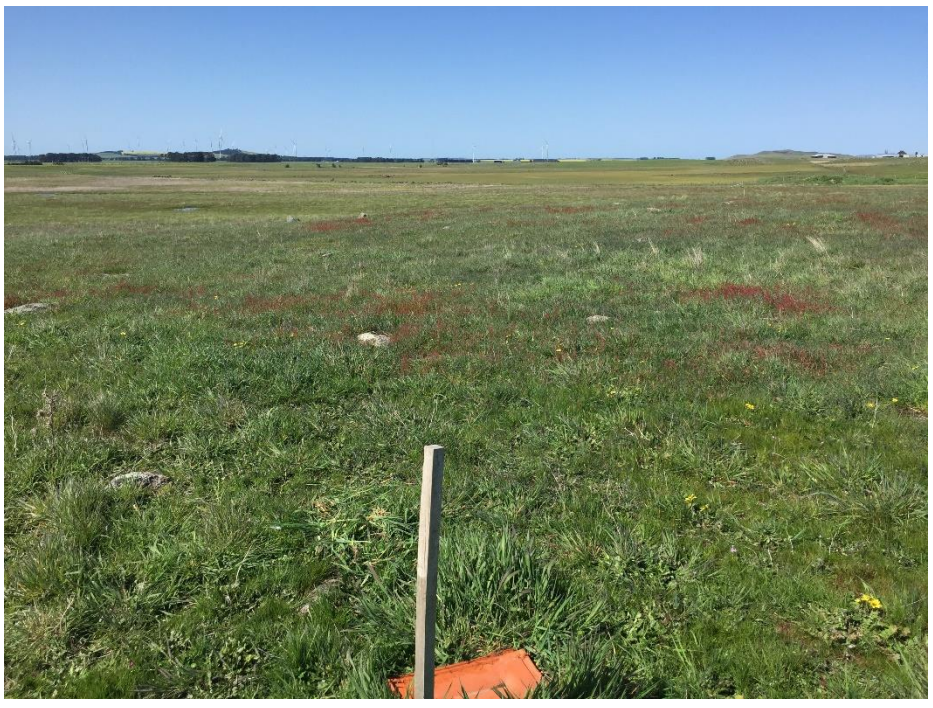
Photograph 19: Tile Grid 5 – vegetation condition 2 October 2020.

Photograph 20: Tile Grid 5 – vegetation condition 8 December 2020.



Photograph 21: Tile Grid 6 – vegetation condition 2 October 2020.

Photograph 22: Tile Grid 6 – vegetation condition 8 December 2020.



Photograph 23: Tile Grid 7 – vegetation condition 2 October 2020.

Photograph 24: Tile Grid 7 – vegetation condition 8 December 2020.

Appendix C Flora species lists Years 1 and 3

Scientific name	Scientific name	Status	Year 1	Year 3
Indigenous species				
Anthosachne scabra	Wheat Grass		x	x
Acaena echinata	Sheep's Burr		x	x
Acacia melanoxylon	Blackwood		x	x
Austrostipa spp.	Spear-grasses		x	x
Calocephalus lacteus	Milky Beauty-heads		x	
Carex sp.	Sedge		x	
Chrysocephalum apiculatum	Common Everlasting	P	x	
Convolvulus angustissimus	Australian Bindweed		x	x
Coronidium sp.	Coronidium	P	x	
Erodium moschatum	Musky Heron's-bill		x	
Eryngium ovinum	Blue Devil			x
Eryngium vesiculosum	Prickfoot			x
Glycine tabacina	Variable Glycine		x	
Glyceria australis	Australian Sweet-grass			x
Isolepis sp.	Club-rush		x	
Juncus bufonius	Toad Rush		x	
Juncus spp.	Rush		x	x
Laphangium luteoalbum	Jersey Cudweed		x	x
Lotus sp.	Lotus			x
Lythrum hyssopifolia	Lesser Loosestrife		x	x
Oxalis thompsoniae	Fluffy-fruit Wood-sorrel			x
Oxalis perennans	Grassland Wood-sorrel		x	
Pelargonium rodneyanum	Magenta Stork's-bill			x
Persicaria prostrata	Creeping Knotweed		x	
Poa labillardierei	Common Tussock-grass		x	x
Pycnosorus globosus	Drumsticks		x	x
Rytidosperma spp.	Wallaby-grasses		x	x
Themeda triandra	Kangaroo Grass		x	x
Tricoryne elatior	Yellow Rush Lily		x	
Wahlenbergia sp.	Bluebell		x	x
Introduced species				
Acetosella vulgaris	Sheep Sorrel		x	
Agrostis capillaris	Brown-top bent		x	x
Aira sp.	Hair-grass		x	x
Anthoxanthum odoratum	Sweet Vernal-grass		x	x
Arctotheca calendula	Capeweed		x	x
Avena fatua	Wild Oat		x	x

Scientific name	Scientific name	Status	Year 1	Year 3
Briza minor	Lesser Quaking Grass		x	x
Bromus diandrus	Great Brome		x	
Bromus hordeaceus	Soft Brome		x	x
Centaurium erythraea	Common Centaury			x
Cerastium glomeratum	Sticky Mouse-ear Chickweed		x	
Cirsium vulgare	Spear Thistle	CaLP (R)	x	x
Cyperus sp.	Cyperus			x
Dactylis glomerata	Cocksfoot		x	
Geranium sp.	Geranium			x
Geranium dissectum	Cut-leaf crane's-bill			x
Holcus lanatus	Yorkshire Fog		x	x
Hordeum sp.	Barley Grass		x	
Hypochaeris radicata	Cat's-ear		x	x
Lactuca serriola	Prickly lettuce			x
Lolium perenne	Perennial Ryegrass		x	x
Modiola caroliniana	Red-flowered Mallow			x
Marrubium vulgare	Horehound	CaLP (C)	x	
Phalaris aquatica	Toowoomba Canary-grass		x	x
Plantago coronopus	Buck's-horn Plantain		x	x
Romulea rosea	Onion-grass		x	
Silybum marianum	Milk thistle, variegated thisle			x
Rumex conglomeratus	Clustered Dock			x
Rumex crispus	Curled Dock		x	x
Solanum nigrum	Black Nightshade		x	
Sonchus oleraceus	Sow Thistle		x	
Trifolium repens	White Clover		x	x
Triticum aestivum	Wheat		x	

Notes: CaLP = ***Catchment and Land Protection Act 1994***, C = Listed as Regionally Controlled under the CaLP Act, (R) = Listed as Restricted under the CaLP Act,

Appendix D Detailed vegetation assessment (Year 3)

Photograph 25: Pasture grasses in Zone 2e (14 January 2020).

Photograph 26: Pasture grasses in Zone 2b (14 January 2020).

Photograph 27: Plains Grassy Wetland identified in Habitat Zone 4 (14 January 2020).

Photograph 28: Pasture grasses in Zone 1c (14 January 2020).

Photograph 29:High biomass cover in rock rises in Zone 1c (14 January 2020).

Photograph 30: Plains Grassland identified in Habitat Zone 6 (14 January 2020).

Photograph 31: Areas containing scattered native tussocks species north of Habitat Zone 6 (14 January 2020).

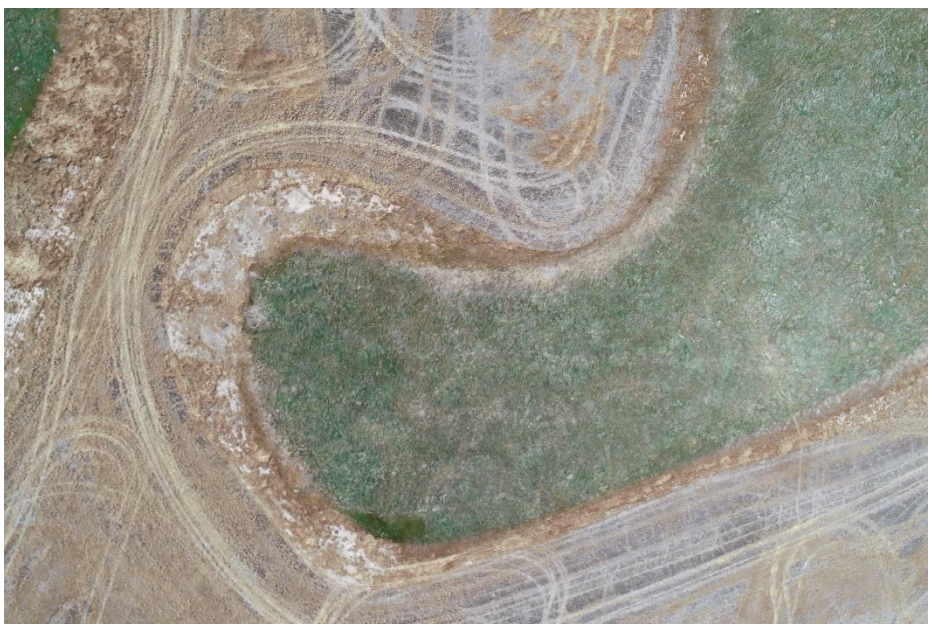
Photograph 32: Proposed Spear Thistle management area in south of offset site (14 January 2020).

Appendix E Aerial drone imagery – Year 1 (November 2018)

Photograph 33: Aerial photo point 'A'.

Photograph 34: Aerial photo point 'B'.

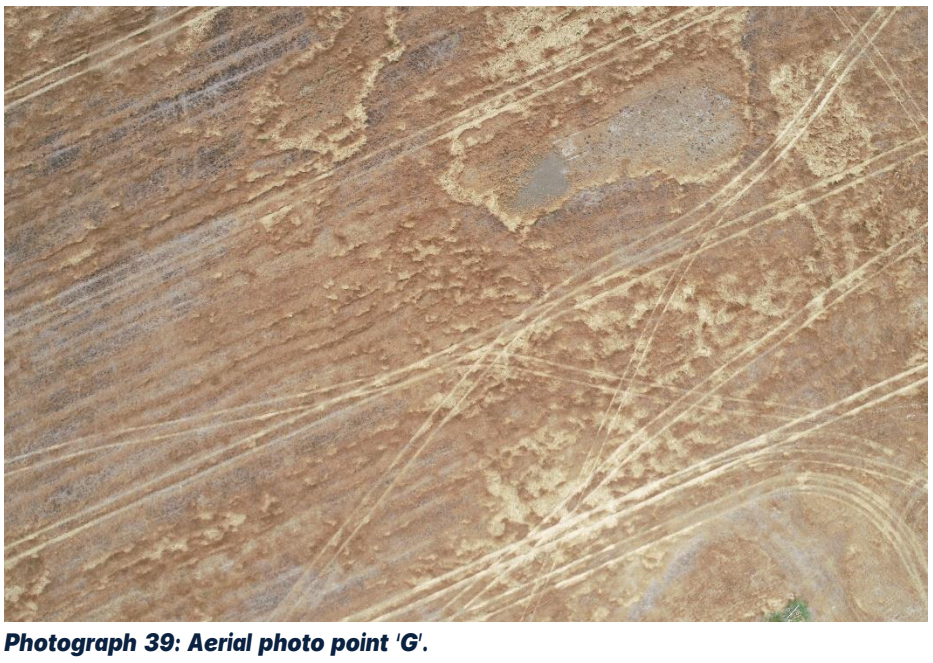
Photograph 35: Aerial photo point 'C'.



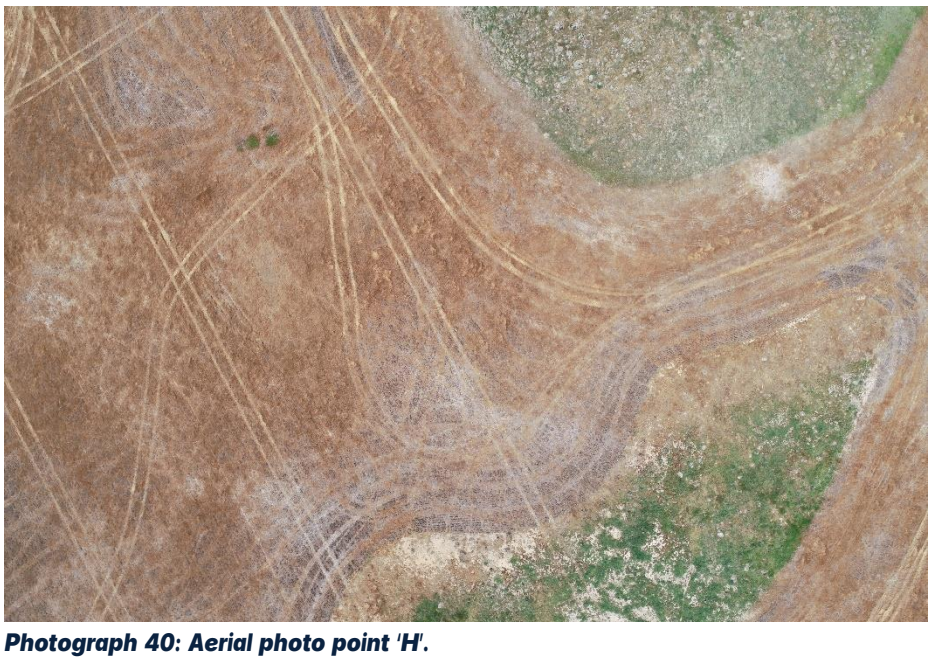
Photograph 36: Aerial photo point 'D'.

Photograph 37: Aerial photo point 'E'.

Photograph 38: Aerial photo point 'F'.



Photograph 39: Aerial photo point 'G'.

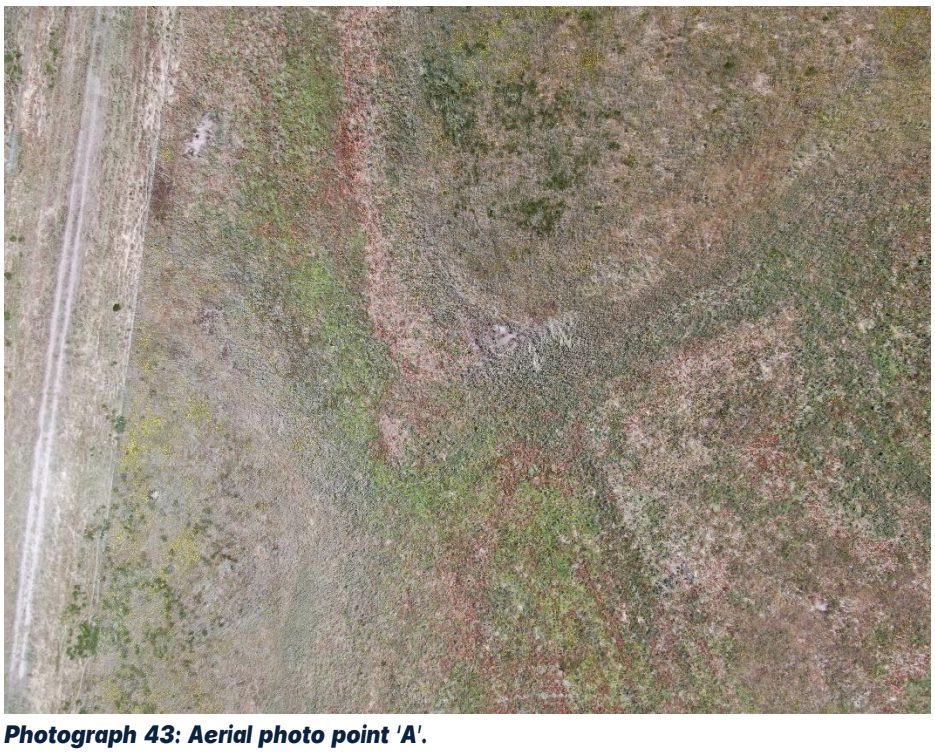


Photograph 40: Aerial photo point 'H'.

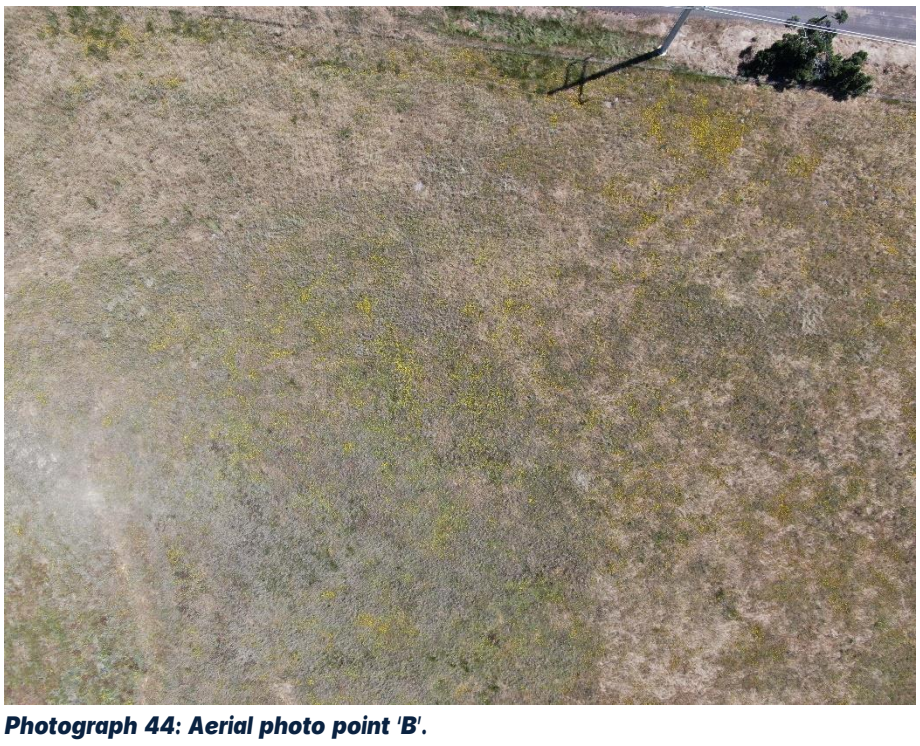
Photograph 41: Aerial photo point 'I'.

Photograph 42: Aerial photo point 'J'.

Appendix F Aerial drone imagery – Year 3 (December 2020)



Photograph 43: Aerial photo point 'A'.



Photograph 44: Aerial photo point 'B'.

Photograph 45: Aerial photo point 'C'.

Photograph 46: Aerial photo point 'D'.

Photograph 47: Aerial photo point 'E'.

Photograph 48: Aerial photo point 'F'.

Photograph 49: Aerial photo point 'G'.

Photograph 50: Aerial photo point 'H'.

Photograph 51: Aerial photo point 'I'.

Photograph 52: Aerial photo point 'J'.

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Appendix C

SHWF Golden Sun Moth Population Monitoring Report (Year 3) SMEC, 23 February 2021

SMEC
Member of the Surbana Jurong Group

Offset Monitoring

Golden Sun Moth Population Monitoring Report (Year 3) – Stockyard Hill Wind Farm Pty Ltd

Reference No. 30043049N
Prepared for Goldwind Australia Pty Ltd
23 February 2021

Document Control

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Acronyms

Acronyms	Description
CaLP Act	*Catchment and Land Protection Act 1994*
CMA	Catchment Management Authority
DAWE	Commonwealth Department of Agriculture, Water and Environment (formally DoEE)
DELWP	Department of Environment, Land, Water and Planning
DEPI	Department of Environment and Primary Industries (now DELWP)
DoEE	Commonwealth Department of the Environment and Energy
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ha	Hectares
km	Kilometres
LGA	Local Government Authority
m	Metres
OMS	Offset Management Strategy
SHWF	Stockyard Hill Wind Farm Pty Ltd
sp.	Species (one species)
spp.	Species (more than one species)

1 Introduction

1.1 Background

SMEC Australia Pty Ltd (SMEC) was commissioned by Goldwind Australia Pty Ltd (Goldwind) to undertake Golden Sun Moth (***Synemon plana***) habitat management and species monitoring at an offset site associated with the Stockyard Hill Wind Farm Pty Ltd project (the project). The project was approved under the ***Environmental Protection and Biodiversity Conservation Act 1999*** (EPBC Act) on 19 August 2018 by the Department of Agriculture, Water and Environment (DAWE) (formally the Department the Environment and Energy [DoEE]). The project will consist of the construction of 149 approved wind turbines located approximately 35 km west of Ballarat, Victoria.

It is understood that the DAWE post-approvals team have approved the 10-year Offset Management Strategy (OMS) for Golden Sun Moth prepared by Ecology and Heritage Partners Pty Ltd (EHP 2017), subject to conditions (Approval Decision EPBC 2016/7746). The conditions outlined within the OMS and project approvals set out how impacts to Golden Sun Moth listed under Sections 18 and 18A of the EPBC Act will be mitigated and managed to acceptable levels.

This includes, but is not limited to, the following key criteria under Approval Decision EPBC 2016/7746:

1. The approval holder must not clear more than:

(a) **1.57** ha of habitat for Golden Sun Moth. Without the prior written approval of the Minister.

2. To compensate for the loss of 1.57 ha of Golden Sun Moth habitat, the approval holder must:

(a) Secure the Golden Sun Moth offset with a covenant prior to commencement of construction. The Golden Sun Moth offset must contain at least 9 ha of known Golden Sun Moth habitat; and

(b) Implement the Golden Sun Moth Offset Management Strategy for the secured Golden Sun Moth offset.

Impacts pertaining to the project will therefore be managed through a 9 ha onsite offset site which is located on private property in the northern section of the project (the '***offset site***') (Figure 1). Given the confirmed presence of Golden Sun Moth within the offset site between the 2011-12 and 2012-13 monitoring seasons (EHP 2014), the offset site provides an opportunity to enhance and manage long-term conservation objectives for the species.

1.2 Scope of Works

The broader objectives for the project are in accordance with the approved OMS which requires Goldwind and the landowner to complete the following (EHP 2017):

- ***Protect and secure the environmental values of the site, ensuring that indigenous species survive;***
- ***Maintain and enhance the biodiversity of the site by maintaining natural ecosystem processes;***
- ***Maintain and if possible expand GSM populations and associated habitats;***
- ***Control and if possible eliminate populations of pest plants and animals; and***
- ***Achieve a high level of ecologically sound on-ground management.***

The objectives of Golden Sun Moth monitoring and implementation of the OMS in Year 3, included:

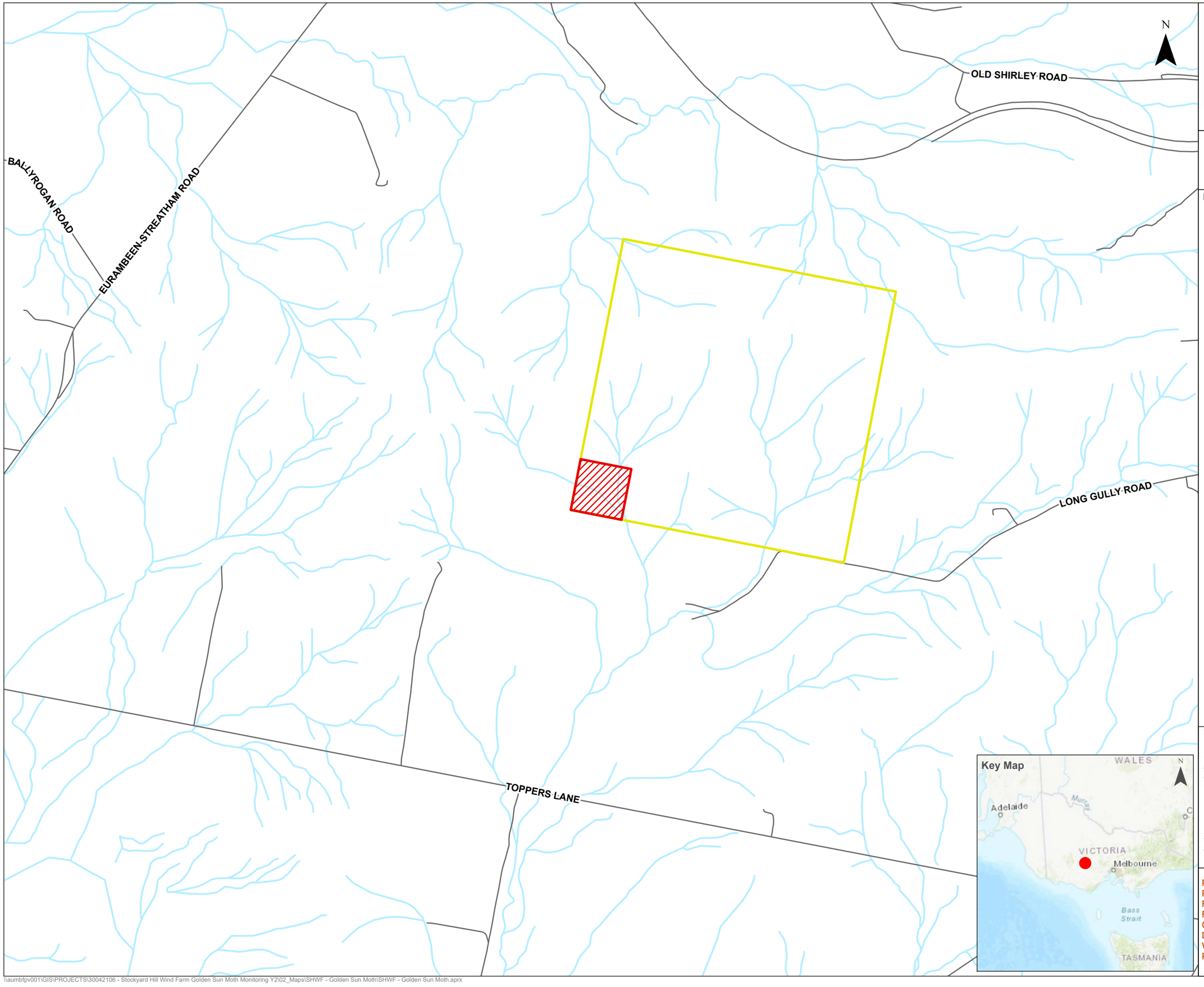
- Completion of Golden Sun Moth monitoring in accordance with suitable survey methodology;
- Providing advice on access control, biomass and grazing management regimes;
- Identifying areas of focused management activities with respect to pest plant and animals; and
- Provision of a Year 3 summary report detailing the monitoring results specific to the objectives of the OMS.

1.3 Offset Site

The 9 ha offset site is located within private property (Crown Allotments 23A, 23B, 24A and 24B Parish of Eurambeen) and is situated within a broader 263 ha area of land within the northern project area. The offset site is located approximately 180 km west of Melbourne and 60 km west of Ballarat (Figure 1).

The offset site has historically been used for rotational grazing by sheep and comprises remnant vegetation patches of Grassy Woodland (EVC 175). The vegetation within the offset site also consists of scattered native trees and open understorey areas supporting native tussock grasses, including wallaby grasses (***Rytidosperma*** spp.), Kangaroo Grass (***Themeda triandra***), spear grasses (***Austrostipa*** spp.) and Weeping Grass (***Microlaena stipoides*** var. ***stipoides***).

The offset site occurs within the Central Victorian Uplands bioregion, Pyrenees Shire Council municipality and Glenelg Catchment Management Authority (CMA) (DELWP 2021a). The offset site is zoned Farming Zone (FZ) within the Pyrenees Planning Scheme and no planning scheme overlays apply to the offset site (although a Bushfire Management Overlay [BMO1] applies to vegetated areas within the broader property) (DELWP 2021b).



SMEC

Member of the Surbana Jurong Group

SMEC AUSTRALIA PTY LTD
ABN 47 065 475 149

0 250 500 750 1000
Meters

1:20,000

Legend

- Property Boundary
- 9 ha Offset Site
- Watercourse
- Road

SOURCES:

1. Example Data © DELWP 2019
2. Basemap World Topographic Map: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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PROJECT: Stockyard Hill Wind Farm - Golden Sun Moth
PROJECT NO: 30042106
FIGURE NO: 1
FIGURE TITLE: Golden Sun Moth Offset
CREATED BY: ar15136
DATE: 30/01/2020
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2 Golden Sun Moth

2.1 Conservation Status

EPBC Act: Critically Endangered
FFG Act: Threatened
Victorian Advisory List: Critically Endangered

2.2 Description

The Golden Sun Moth is a medium-sized, diurnal moth with a wingspan up to 3.4 cm (DAWE 2021). In the female, the upper-side of the forewing is dark grey, and the hindwing is bright orange, while in the males the forewing and hindwing are dark brown (Image 1, DAWE 2021).

Image 1. Golden Sun Moth – male (left) and female (right) (Source: DEWHA 2009).

For much of their lifecycle Golden Sun Moth are underground in a larval stage, feeding on the roots of wallaby grasses (***Rytidospema*** spp.), however, the species may also inhabit degraded grasslands dominated by the exotic Chilean Needle-grass (***Nassella neesiana***), a Weed of National Significance (WONS) (DAWE 2021). Adults emerge during summer to breed, with males flying approximately 1 m above the grass actively searching for a female (DAWE 2021). Adult moths generally survive for one to four days as they lack functional mouth parts (DAWE 2021).

2.3 Distribution

The distribution of Golden Sun Moth corresponds with native temperate grasslands across NSW, the ACT, Victoria and South Australia. Native grasslands once covered approximately 2,000,000 ha of south-eastern Australia, however, less than 1% of these temperate native grasslands remain. As a result, the remaining Golden Sun Moth populations are thought to be reduced and fragmented throughout their historical range (DAWE 2021).

2.4 Habitat

Golden Sun Moth persist in native temperate grassland and open grassy woodlands dominated by Wallaby-grasses within the species historical range throughout Victoria (DEWHA 2009). The most common native grasses in these systems are wallaby grasses, spear grasses (***Austrostipa*** spp.), tussock grasses (***Poa*** spp.), Weeping Grass, wire grasses (***Aristida*** spp.) and Kangaroo Grass (***Themeda tirandra***) (DAWE 2021). Habitat containing a high cover (≥40%) of suitable host plants combined with well drained and north facing sites with minimal shading are preferred by the species. Areas of bare or sparsely covered ground between grass tussocks (inter-tussock spaces) are important in helping males locate females during the breeding period (October-January) (DAWE 2021).

2.5 Key Threats

The principal threats to the Golden Sun Moth include loss, degradation, modification and fragmentation of habitat through the following impacts (DEWHA 2009):

- Removal of vegetation;
- Inappropriate fire regimes;
- Weed invasion;
- Overstocking (causing loss of habitat plants);
- Changes to soil and plant structure;
- Increased nutrient loads);
- Changes to agricultural practices (e.g. fertiliser application, ploughing and overgrazing);
- Rank growth (loss of inter-tussock spaces); and
- Soil compaction.

3 Offset Management Strategy

The following section outlines detailed management and monitoring actions in accordance with the OMS for the identified Golden Sun Moth population. Overall, the implementation of the OMS will provide a net benefit to Golden Sun Moth within the offset site through the protection and active management of the existing population and associated habitat(s).

3.1 Mandatory Offset Site Actions

The following actions will be maintained for a mandatory period of 10-years in accordance with the OMS (EHP 2017):

- No cropping, no drainage/hydrology alteration;
- No use of boom sprayers;
- No rock removal or cropping;
- No artificial stock feeding within the offset area;
- Weed cover is managed in perpetuity to ensure it does not increase beyond the level attained at Year-10 of management;
- Pest animals are controlled in perpetuity to the level attained at year 10 of the management;
- GSM populations and habitat are maintained or improved; and
- Any proposed uses or development of the site which conflict with the landowner's commitments are not permitted under this plan.

3.2 Golden Sun Moth Monitoring

3.2.1 Survey permits

Golden Sun Moth monitoring was undertaken in accordance with a Research Permit approved by the Department of the Environment, Land, Water and Planning (DELWP) under the ***Wildlife Act 1975*** (Permit 10008716). All animal handling was in accordance with SMECs Standard Operating Procedure (SMEC 2021), and Wildlife and Small Institutions Animal Ethics Committee (WSIAEC) approval 22.16.

3.2.2 Survey methods

Golden Sun Moth monitoring was undertaken between 30 November 2020 to 14 January 2021 in general accordance with the ***Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (Synemon plana***) (DEWHA 2009). All monitoring events were conducted during suitable weather conditions during the species known emergence period (October-January), specifically (DEWHA 2009):

- Warm to hot days;
- Between 10:00am-14:00pm;
- Clear or mostly cloudless sky;
- Still or nearly still wind conditions; and
- At least two days since rain.

Surveys were completed by SMEC ecologists experienced with the identification and ecology of Golden Sun Moth. Survey transects across the offset site were undertaken at average intervals of approximately 50m. A total of four monitoring events were completed to confirm the species relative abundance and distribution across the offset site.

3.3 Access Control

The OMS outlines the requirement to implement appropriate fencing around the offset site to restrict stock access via an enclosed permanent post-and-wire fencing. Given the addition of a new offset site immediately adjoining the 9 ha area, the existing northern and eastern extent of this fence was removed by the landowner in 2019. This approach was undertaken as biomass control via rotational grazing and is required at similar intervals between the two offset sites (March to August).

However, in response to Year 2 recommendations (SMEC 2020), a temporary fence was reinstalled to allow focused biomass control within the offset site to meet the objectives of management targets outlined in the OMS.

Overall, the direct removal of stock is being undertaken to avoid accidental or unauthorised access during Golden Sun Moth management periods (September to February).

3.3.1 Access control actions

Access control within the OMS is stated in accordance with the following:

- Maintain permanent fences surrounding the perimeter of the offset site. Any new fencing will be permanent post-and-wire fencing and constructed with minimal impact to the offset site (i.e. no stock piling of fencing materials or soil during construction); and
- Fence condition will be constantly monitored given that much of the broader property is still used for the controlled grazing of sheep. Any gaps or holes in fencing will be repaired immediately.

3.3.2 Performance measures

Key performance measures within the OMS have the following targets to quantify the success of access control:

- Permanent stock-proof fencing maintained to prevent accidental or unauthorised access into the offset site from adjoining areas of the offset property.

3.4 Biomass Density and Stock Grazing

Current biomass reduction consists of low-intensity rotational stock grazing. The OMS notes that all sheep must be removed during the critical flowering/reproductive period for native species (September to February), with access permitted to reduce biomass during March-August. No mosaic burns have been undertaken to date.

3.4.1 Biomass actions

Biomass control will proceed in accordance with the following:

- Ensure adequate grazing to reduce biomass to acceptable cover levels (i.e. 70%);
- Spell offset site containing Grassy Woodland areas from September through to late January; and
- An appropriate land manager/contractor will co-ordinate weed control works with the grazing regime.

3.4.2 Performance measures

The following key performance targets have been provided to measure the success of the biomass control:

- Vegetation cover is maintained at greater than 70% throughout the study area, and the space (i.e. bare ground) available for native flora species recruitment is between 20% and 40%;
- Golden Sun Moth populations are not reduced;
- An herb-rich diversity and open ground cover is maintained and enhanced;
- No evidence of an increase in soil pugging; and
- The maintenance of open structured Grassy Woodland community suitable for the ecological requirements of Golden Sun Moth.

3.5 Weed Control

Weed control work is currently being undertaken by the landowner. While the overall objective of the OMS is to eliminate or reduce all weed species to less than 1-5% cover, priority weeds within the offset site and immediately adjacent will be the focus of management. Priority weeds include woody weeds, all noxious weeds listed under the ***Catchment and Land Protection Act 1994*** (CaLP), or any other weed species considered to be high threat.

3.5.1 Weed control actions

The following key management actions will be undertaken to ensure success of the weed management program:

- Priority weeds: These will be mapped across the site, and monitored annually, to determine when eradication is required. Results will be used to evaluate eradication actions from previous seasons;
- Eliminate high threat environmental weeds (cover reduced to <1%) and control medium threat environmental weeds within all habitat zones (cover reduced to <5%);
- Identify new infestations of weed species and implement control as appropriate; and
- Control all other weeds within all habitat zones (at a reduced cover of current levels).

3.5.2 Performance measures

The following key performance targets will be used to measure the success of the weed management program and include at a minimum:

- The reduction of high threat weed cover to <1%;
- The reduction of medium threat weed cover to <5%; and
- The maintenance of all other weeds at a reduced cover to current levels.

3.6 Pest Animal Control

The OMS requires all vermin harbour (i.e. burrows) to be treated, particularly European Rabbits (***Oryctolagus cuniculus***), without disturbance to native vegetation or significant soil disturbance. The landowner will monitor pest animal use within the offset site whilst undertaking weed control works to determine if changes to management actions are required.

3.6.1 Pest animal actions

The following key management actions will be undertaken to ensure success of the pest animal program:

- Monitor the population of pest animals (namely rabbits, hares, feral cats and foxes) during weed control works and adapt management as considered appropriate (i.e. if an increase in pest animal activity is observed then a targeted pest animal control program should be implemented);
- Identify potential harbour and burrows, and destroy if soil disturbance can be minimised and all native vegetation retained; and
- If necessary, undertake a pest animal control program (e.g. baiting, trapping and shooting of foxes, hares, rabbits or feral cats).

3.6.2 Performance measures

The following key performance targets have been provided to measure the success of the pest animal management:

- No increase in pest animal activity from approval of this plan; and
- Minimal soil disturbance and no native vegetation loss from pest animal management activities.

3.7 Reporting

3.7.1 Progress reports

Progress reports will be provided to the responsible authority at the end of years 2, 4, 6, 8 and 10 of the program. Information to be provided in the progress report includes:

- A summary of management actions detailing activities completed during the reporting period (Table 4);
- Landowner monitoring and reporting forms (Section 3.7.2);
- A description of the specific monitoring results from ecological surveys undertaken (Section 4.1.1);
- Results of weed and pest animal control work (Gerrpart Holdings Pty Ltd 2021);
- Successful management tools (i.e. techniques used to control weed species, monitoring technique, etc.) (Gerrpart Holdings Pty Ltd 2021);
- Any problems or issues experienced (i.e. new infestation of weed species, etc.) (Sections 4.4 and Gerrpart Holdings Pty Ltd 2021);
- Any corrective actions and contingency measures where monitoring indicates that there has been a deterioration in the native vegetation or Golden Sun Moth population (Section 6.1); and
- Photographs showing evidence of works (Gerrpart Holdings Pty Ltd 2021).

3.7.2 Landowner monitoring and reporting

Information relating to access control, weed and pest animal control will be provided by the landowner within a stand-alone report (Gerrpart Holdings Pty Ltd 2021).

4 Results

4.1 Golden Sun Moth monitoring

4.1.1 Survey results

Monitoring was undertaken over four separate days across the offset site between 30 November 2020 and 14 January 2021 (Table 1). Weather conditions during monitoring events were considered suitable for the detection of Golden Sun Moth and no reference sites were visited as the species has been confirmed on site.

Table 1: Golden Sun Moth survey dates and weather conditions[1].

Survey no.	Survey date	Time of survey	Temp. (°C)	Wind (km/h) / Direction	Days since rain	Total GSM
1	30-11-2020	14:00-15:00am	25	24 NNE	1 day	35
2	03-12-2020	12:30-13:30pm	21	11 NW	1 day	56
3	11-12-2020	12:00-13:30pm	20	35 SE	> 2 days	386
4	14-01-2021	14:00-15:00pm	19	17 WSW	>2 days	0

A total of approximately 477 male Golden Sun Moth were recorded during four separate monitoring events (Table 1). Golden Sun Moth were typically observed in areas of higher quality grassland (see Zone 3, Section 4.3) during Surveys 1 and 2 (30 November and 3 December 2020). Such areas typically supported a higher percentage of native grass cover (≥40-50%) and open ground (≥25%), which are known to occur in the eastern portion of the offset site (Table 1, Figure 2).

The highest species emergence was detected on Survey 3 (11 December 2020), with 386 male Golden Sun Moth recorded (Table 1; Figure 2). The species was observed across the entire offset site during Survey 3 and areas adjoining the offset site where high quality grassland habitat for the species is present. It was assumed the Golden Sun Moth core emergence period had finished by Survey 4 (14 January 2021), as no individuals were detected. No female Golden Sun Moth were observed during monitoring events across the site.

Based on other shared monitoring data across Victoria (ECA 2021), this offset site continues to provide high abundances of the species compared with other reference locations and offset sites in which data is available. Monitoring results indicate that a high number of Golden Sun Moth are still persisting across the offset site and is supported by high quality habitat for the species.

4.1.2 Landowner observations

No additional landowner observations have been included in the Year 3 monitoring report.

4.2 Access Control

As noted in Section 3.3.1, internal perimeter fencing to the north and east of the offset site was removed in 2019. This was in response to a new offset site immediately adjoining the site being endorsed for conservation protection in which similar biomass control measures would be implemented via rotational stock grazing.

However, in response to Year 2 recommendations (SMEC 2020), a temporary fence was reinstalled to allow focused biomass control within the offset site. The aim of this was to increase biomass control to meet objectives of management targets. Outside of approved grazing periods, the direct removal of stock is being undertaken to avoid accidental or unauthorised access during Golden Sun Moth management periods (September to February).

It is important to continue monitoring the effectiveness of this approach as biomass levels may be influenced by seasonal changes in environmental conditions which will require adaptive management if objectives are not being met. The results of weed monitoring and biomass, including recommendations for improvements, are provided in Sections 4.3-4.5 below.

[1] Bureau of Meteorology: data sourced from Ballarat Aerodrome (Station 089002)

Legend

Golden Sun Moth Offset Site

Golden Sun Moth Observations

- November 30 2020
- December 3 2020
- December 11 2020

Survey Transects

- November 30 2020 (35 males)
- December 3 2020 (56 males)
- December 11 2020 (386 males)
- January 14 2021 (0 indvs.)

0 20 40 60 80 m

PAGE SIZE	A3
FIGURE TITLE	Golden Sun Moth Monitoring (Year 3)
PROJECT TITLE	Stockyard Hill Wind Farm - Golden Sun Moth
PROJECT NO.	30043049N
FIGURE NO.	2
DATE	12-02-2021
CREATED BY	NC14936
SOURCES	ESRI

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4.3 Biomass Density and Stock Grazing

4.3.1 Overall habitat quality

The offset site continues to provides excellent habitat for Golden Sun Moth as it contains areas with a high cover (>40%) of wallaby grasses, spear grasses, Weeping Grass, Kangaroo Grass and open ground with available spaces to support breeding (Plates 1-3). Other native species include Blue Devil (***Eryngium ovinum***), Chocolate Lily (***Arthropodium strictum***), Bluebell (***Wahlenbergia*** sp.) and areas supporting bryophytes and lichens (particularly in the east of the site, Zone 3).

As noted in Year 2 monitoring, dominant weed species on site that will require focused management include Brown-top Bent (***Agrostic capillaris***), Bulbous Meadow-grass (***Poa bulbosa***), Yorkshire Fog (***Holcus lanatus***), Onion Grass (***Romulea rosea***), Soft Brome (***Bromus hordeaceus***), Perennial Ryegrass (***Lolium perenne***), Soft Brome (***Bromus hordeaceus***), Hair-grass (***Aira*** spp.), Cat's Ear (***Hypochaeris radicata***), Cape Weed (***Arctotheca calendula***) and other annual weedy grasses (Plate 4). A more detailed discussion on biomass control is provided in Section 4.3.2 below.

Plate 1: High cover of wallaby grasses within offset site (A, Taylor 11-12-2020).

Plate 2: High cover of wallaby grasses interspersed with introduced pasture grasses (A, Taylor 11-12-2020).

Plate 3: High quality Golden Sun Moth habitat with high cover of native tussock grasses and adequate bare open ground (i.e. between 20-40%) (A, Taylor 11-12-2020).

Plate 4: Areas in Zone 1 with a higher cover of introduced pasture grasses interspersed with native tussock grasses (A, Taylor 11-12-2020).

4.3.2 Biomass density

The following section discusses current vegetation cover within five separate zones (Zones 1-5) as identified within the offset site. An extra zone (Zone 5) has been added since the Year 2 monitoring event. These patches should be managed accordingly. Please refer to Figure 3 below for the indicative extents of each zone.

Legend

- Golden Sun Moth Offset Site

Vegetation Zone

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5

0 20 40 60 80 m

PAGE SIZE	A3
FIGURE TITLE	Vegetation Management
PROJECT TITLE	Stockyard Hill Wind Farm - Golden Sun Moth
PROJECT NO.	30043049N
FIGURE NO.	3
DATE	15-02-2021
CREATED BY	JH13976
SOURCES	ESRI

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4.3.2.1 Zone 1

This zone is located in the centre of the offset site and extends to the western boundary fence (Figure 3). Zone 1 includes a shallow drainage line running east-west which flows to an artificial waterbody at the eastern edge of the offset site (Figure 3). Accordingly, stock are removed from low lying areas during periods of inundation to avoid soil pugging and is monitored by the landowner.

Zone 1 supports a variety of native tussock grasses and maintains a baseline cover (30%) of wallaby grasses, spear grasses and Weeping Grass (***Microlaena stipoides*** var. ***stipoides***).

Zone 1 had the second highest level of biomass (65%) comprising pasture grasses including Brown-top Bent, Perennial Ryegrass, Bulbous Meadow-grass and Hair-grass (Plates 5-6). This zone will require focussed biomass reduction in March-April 2021 to increase the availability of open ground to 20-40% in accordance with the OMS, currently open ground is approximately 5%.

If required, further temporary fencing should also be installed to focus stock grazing to areas within Zone 1 given the high biomass levels. If unsuccessful, adaptive management options such as mosaic burning may be implemented in April-May 2021 in accordance with Year 4 actions within the OMS (in consultation with DELWP and CFA).

Plate 5: Native and introduced pasture grasses observed within Zone 1 (A, Taylor 11-12-2020).

Plate 6: Typical ground cover/biomass observed in Zone 1 (A, Taylor 11-12-2020).

4.3.2.2 Zone 2

This zone is located along the northern and southern extent of the offset site (Figure 3). Similarly, this zone had a high level of biomass (60%) and will require focussed grazing management during March-April 2021.

Adaptive biomass management options such as temporary stock fencing and mosaic burning will need to be reviewed in conjunction with Zone 1 as available open ground cover (10%) is currently lower than the 20-40% target noted within the OMS. Overall, this zone has a similar level of native tussock grass cover (30%), but pasture grasses still form the majority of ground cover (60%) within this zone (Plates 7-8).

Plate 7: Biomass observed within Zone 2.

Plate 8: Typical ground cover/biomass observed in Zone 2.

4.3.2.3 Zone 3

This zone provides the highest quality vegetation for Golden Sun Moth and is located along the eastern boundary of the offset site, with two small patches now noted along the northern boundary (that are addition to findings in Year 2 monitoring) (Figure 3). This zone has a high cover of native tussock grass (40-50%), and open ground is typically within the preferred range for the species (25%) but will require some low intensity grazing to increase this value (ideally to 40%) between March-August 2021. Overall, the level of pasture grass is relatively low (25%) and can be maintained at current levels through the grazing regime proposed.

Plate 9: Biomass observed within Zone 3.

Plate 10: Typical ground cover/biomass observed in Zone 3.

4.3.2.4 Zone 4

This zone forms a shallow drainage line leading from the south-east corner of the offset site boundary into the artificial waterbody, as well as a small patch on the southern border (Figure 3). This zone has a similar cover of native tussocks (30%), pasture grass (60%) and open ground (10%) to Zone 2 and can be managed via stock grazing. Given this area is immediately adjoining higher quality species habitat in Zone 3, it is recommended any high threat weeds are treated to minimise potential spread into areas of remnant vegetation adjoining the drainage line.

Plate 11: Biomass observed within Zone 4.

Plate 12: Typical ground cover/biomass observed in Zone 4.

4.3.2.5 Zone 5

This zone has been added as part of the Year 3 monitoring results and is located in the south-west corner of the offset site (Figure 3). Zone 5 is frequented by stock as it is the most elevated location within the offset site and is dominated by Brown-top Bent and Yorkshire Fog. It comprises approximately 85% pasture grasses and 5% native species. This zone will require focussed weed and biomass reduction in March-April 2021 to increase the availability of open ground to 20-40% in accordance with the OMS, currently open ground is approximately 10%.

Plate 13: Biomass observed within Zone 5.

Plate 14: Typical ground cover/biomass observed in Zone 5.

4.3.3 Stock grazing

Based on the findings of the site assessment, stock grazing will need to be focussed within Zones 1, 2 and 5 during March-April 2021 (Figure 3). Temporary fencing may be required to retain animals within these zones to reduce biomass levels and increase the amount of open ground to the required levels (20-40%). Stocking rates may need to be increased if biomass cannot be reduced. If low lying areas within Zone 1 become inundated, this area must be avoided by stock using temporary fencing. Zones 3 and 4 will only require low intensity grazing and should be excluded to stock if areas of open ground increase to 40% or above.

Discussion with the landowners has identified limitations in the OMS with regards to stock grazing periods and the control of biomass (particularly in seasonally wet years as observed in the 2020/21 monitoring period). For example, biomass levels and the control of weeds during Year 3 monitoring could have been managed more intensely if stock grazing could have been extended to 30 September 2020 with additional short periods of crash grazing between October-January. This is in response to the offset site receiving over 300mm of rainfall between October 2020 to January 2021 where the growth height of vegetation (particularly introduced pasture grasses) was notable during Year 3 monitoring.

Overall, it should be acknowledged that the response of natural environments and management of biomass needs to allow for more flexible grazing periods to respond to changing conditions in any given year (in accordance with **Section 6.2 – Adaptive Management Approach** in the OMS, EHP 2017). Allowing flexibility around the timing of stock grazing at the discretion of the landowner (in consultation with an ecologist) and DELWP is therefore recommended to maintain performance and completion criteria.

4.4 Weed Control

Based on Year 3 site monitoring, the management focus for high threat weed species will include ongoing treatment of Brown-top Bent, Cape Weed, Spear Thistle (***Cirsium vulgare***), Cat's Ear and Yorkshire Fog. Areas of pasture grass with a high biomass will be managed by rotational stock grazing in March-April 2021.

Opportunities to spot-spray sections within Zones 1 and 2 (and in particularly, Zone 5) that support a higher cover of high threat weed species is recommended to promote increased open ground for native species recruitment in February-March 2021.

Given the level of biomass observed during Year 3 monitoring (and in response to high rainfall), it is recommended that burning is reviewed and implemented in autumn April-May 2021 also, particularly Zones 1 and 2.

Weed control has been managed by the landowner during Years 1-3 of the OMS and is summarised within Gerrpart Holdings Pty Ltd (2019, 2020, 2021).

4.4.1 Species of concern

A new weed species of concern, South African Weed-orchid (***Disa bracteata***), has been identified by the landowner in proximity to the offset site. This species generally grows in disturbed areas and can be found in woodlands, grazing lands and can invade bushland and pastures (Agriculture Victoria 2021). Discussions with the landowner have identified the difficulties in detecting and potential management of this species in the future given the life form traits of the species as described below.

The species is a deciduous perennial orchid with underground tubers which is known to be consumed by sheep and kangaroos. This ultimately poses a high risk to spreading across the property in the future in addition to

increased competition and exclusion of smaller indigenous flora including orchids, lilies and grasses (Agriculture Victoria 2021). The risk of spread is also linked with the species ability to produce thousands of 'minute and dust like' airborne seeds that may also be dispersed by water (and may travel large distances in a given season) (Agriculture Victoria 2021).

It is recommended this species is monitored closely within the property with areas excluded by fencing to sheep and kangaroos to avoid potential spread. The fencing should include a barrier to seed dispersal (i.e. sediment type material) to limit seed dispersal across the property. Any individuals located must be dug out with any tubers removed to avoid potential regrowth, and should ideally be done before setting seed, the species is known to sprout in early spring.

Further discussions with DELWP or Agriculture Victoria are recommended to confirm best practice methods for the species based on management in other locations within Victoria.

4.5 Pest Animal Control

Rabbit burrows and warrens that were previously fumigated and collapsed in Year 1 or 2 monitoring were checked on numerous occasions by the landowners. Numerous spotlighting events took place during Year 3 pest animal monitoring with no rabbits or foxes observed or shot within the offset site (Gerrpart Holdings Pty Ltd 2021). Several rabbits were shot across the broader property and no further evidence of fox or pig activity has been observed in Year 3. Pest animal control has been managed by the landowner during Years 1-3 of the OMS and can be reviewed within Gerrpart Holdings Pty Ltd (2019, 2020, 2021).

4.6 Summary of Monitoring

Table 2 outlines the monitoring results in response to targeted management objectives of the OMS.

Table 2: Summary of management objectives and recommendations.

Management objective	Target objective	Year 3 results	Recommendations
Golden Sun Moth monitoring and vegetation quality	Undertake annual species monitoring over four separate occasions between October-January	Approximately 477 male Golden Sun Moth were recorded during 2020-21 monitoring events. This result indicates the offset site continues to provide high quality habitat for the species.	Recommendations in Section 6.1 are aimed to improve habitat quality for the species.
Access control	Maintain existing and any new fencing to appropriate standards	Temporary internal perimeter fencing has been re-installed to improve biomass management within the offset site. Sheep are otherwise excluded to avoid unauthorised entry to offset site.	Manage biomass levels in accordance with Section 4.3. If biomass levels are not within OMS parameters, introduce additional temporary fencing or additional management tools (i.e. burning) to reduce biomass levels.
Biomass Density and Stock Grazing	Vegetation maintained to a level of 70% with areas of recruitment (bare ground) ranging between 20-40%	Zones 1, 2, 4 and 5 – recruitment targets not met and can be limited by current stock grazing periods within the OMS. Zone 3 – appropriate recruitment targets met.	Focus biomass reduction in Zones 1, 2 and 5. Implement additional measures such as temporary fencing or burning to minimise biomass in March-April 2021. Recommend future timing of stock grazing is flexible in response to annual site conditions.
Weed Control	Control and manage high threat weeds, remove woody weeds	Continue weed management on high threat weeds such as Spear Thistle, Cape Weed, Yorkshire Fog and Bent-top Grass, Cat's Ear to maintain (and reduce) current levels	Further discussions with DELWP or Agriculture Victoria are recommended to confirm best practice methods for management of South African Weed-

		within the offset site. No woody weeds found. Refer to Gerrpart Holdings Pty Ltd (2021).	orchid. Active management will be required to minimise the spread of this weed. Focus management efforts to high threat weeds include Brown-top Bent, Yorkshire Fog and Cape Weed. Spear Thistle must be maintained at <1% cover; and Cat's Ear should also be focussed on in Zones 1 and 2.
Pest Animal Control	Monitor and treat pest animals as required	Pest animal monitoring has been undertaken. No further evidence of rabbits, foxes or pigs in Year 3. Refer to Gerrpart Holdings Pty Ltd (2021).	Continue monitoring pest animal activity in accordance with the OMS requirements.
Reporting	Completion of a summary report for Year 3 monitoring	Refer to documented results contained within this report and Gerrpart Holdings Pty Ltd (2021).	Refer to Section 6.1

5 Management action summary

Table 3 summarises the management actions required for Years 1-3 of the OMS and date of completion.

Table 3: Management action summary for Years 1-3 OMS objectives.

Year	Action	Management action	Responsible authority / personnel	Timing of action	Date completed
1	1.1	Check permanent fences surrounding the offset property are secure	Landowner	Within three months of this plan being approved by DoEE	March 2018
1	1.2	Conduct weed control	Landowner	Species dependent	Refer to Gerrard Holdings Pty Ltd (2019)
1	1.3	Monitor populations of pest animals and conduct control works if required	Landowner and relevant contractors	After peak breeding season - late summer/early autumn	Refer to Gerrard Holdings Pty Ltd (2019)
1	1.4	Conduct monitoring for GSM	EHP Pty Ltd	One year after commencement of OMS	Refer to EHP (2019)
1	1.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/ fuel reduction plan if appropriate	Landowner	Summer/Autumn	Refer to Gerrard Holdings Pty Ltd (2019) and EHP (2019)
2	2.1	Conduct weed control	Landowner	Species dependent	Refer to Gerrard Holdings Pty Ltd (2020)
2	2.2	Monitor populations of pest animals and conduct control works if required	Landowner	After summer/early peak breeding autumn season - late	Refer to Gerrard Holdings Pty Ltd (2020)
2	2.3	Conduct monitoring for GSM	SMEC Australia	Two years after commencement of OMS	Refer to Section 4.1 of SMEC 2020
2	2.4	Maintain fences	Landowner	As required	Refer to Section 4.2 and Gerrard Holdings Pty Ltd (2020)
2	2.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/ fuel reduction plan if appropriate	Landowner	Summer/Autumn	Refer to Section 4.3 and Gerrard Holdings Pty Ltd (2020)
2	2.6	Monitor and assess works, and prepare two-year progress report	SMEC Australia	Two years after commencement of OMS	Refer to documented results contained within this report

Year	Action	Management action	Responsible authority / personnel	Timing of action	Date completed
3	3.1	Conduct weed control	Landowner	Species dependent	Refer to Gerrard Holdings Pty Ltd (2020)
3	3.2	Monitor populations of pest animals and conduct control works if required	Landowner	After summer/early peak breeding autumn season - late	Refer to Gerrard Holdings Pty Ltd (2021)
3	3.3	Conduct monitoring for GSM	SMEC Australia	Three years after commencement of OMS	Refer to Section 4.1
3	3.4	Maintain fences	Landowner	As required	Refer to Section 4.2 and Gerrard Holdings Pty Ltd (2021)
3	3.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/ fuel reduction plan if appropriate	Landowner	Summer/Autumn	Refer to Section 4.3 and Gerrard Holdings Pty Ltd (2021)
3	3.6	Monitor and assess works (no report)	SMEC Australia	Three years after commencement of OMS	Refer to documented results contained within this report

6 Conclusion

Management actions in accordance with the endorsed OMS were undertaken for Year 3 by SMEC and the landowner. Results of Golden Sun Moth population monitoring indicate the offset site is supporting a strong population of the species with approximately 477 male Golden Sun Moth detected during four separate monitoring events. Based on results between Year 1-3 monitoring, there have been notable fluctuations in the population numbers between years and given the lifecycle of the species this can be associated with a range of factors (i.e. environmental conditions and species breeding success in previous years). Based on other shared monitoring data across Victoria, this offset site continues to provide high abundances of the species compared with other reference and offset sites in which data is available. Monitoring results indicate that a high number of Golden Sun Moth are still persisting across the offset site which is supported by high quality habitat for the species.

However, the site has maintained a high level of biomass which will need to be reduced by focussed stock grazing in March-April 2021, particularly Zones 1, 2 and 5. Temporary fencing should also be installed to focus stock grazing to areas within Zone 1, 2 and 5 given the high biomass levels. If site conditions permit, adaptive management options such as burning may be implemented as an alternative to small areas within Zones 1, 2 and 5 during April-May 2021 in accordance with Year 4 actions within the OMS in consultation with DELWP and CFA.

Zone 3 continues to provide the highest quality habitat for Golden Sun Moth and will require lower intensity stock grazing to maintain current biomass and recruitment levels. As Zone 4 is immediately adjoining higher quality Golden Sun Moth habitat in Zone 3, it is recommended any high threat weeds are treated to minimise potential spread into areas of remnant vegetation adjoining the drainage line.

Overall, it should be acknowledged that the response of natural environments and management of biomass needs to allow for more flexible grazing periods to respond to changing conditions in any given year (in accordance with **Section 6.2 – Adaptive Management Approach** in the OMS, EHP 2017). Allowing flexibility around the timing of stock grazing at the discretion of the landowner (in consultation with an ecologist) and DELWP is therefore recommended to maintain performance and completion criteria.

South African Weed-orchid has been identified by the landowner in proximity to the offset site. Further discussions with DELWP or Agriculture Victoria are recommended to confirm best practice methods for the species based on management in other locations within Victoria.

Weed treatment for the broader offset site will need to continue focussing on high threat weeds such as Spear Thistle, Cape Weed, Yorkshire Fog, Bent-top Grass and Cat's Ear to maintain (and reduce) current levels within the offset site in subsequent years. Pest animals are currently being managed appropriately and will need to be monitored in subsequent years to avoid an increase in pest species numbers within the offset site.

6.1 Recommendations

Recommendations for each management action within the offset site are listed below:

6.1.1 Access control

- Retain temporary fencing installed within the internal perimeter of the offset site to allow the continuation of rotational stock grazing and management of biomass;
- If biomass targets cannot be met within Zones 1, 2, 4 and 5, it is recommended temporary fencing is installed to retain stock within designated zones with a higher level of biomass; and
- Temporary fencing may also be required in Zone 3 if biomass levels are adequate and stock need to be directly excluded from this zone.

6.1.2 Biomass density and stock grazing

6.1.2.1 Zones 1, 2 and 5

- Focus intensive biomass reduction in Zones 1, 2 and 5 during March-April 2021;
- Review options for adaptive burning methods within Zones 1, 2 and 5 during March-April 2021 with DELWP and CFA (if stock grazing is not adequate enough to manage biomass to OMS targets);
- Promote adaptive management approach within OMS by implementing flexible stock grazing within the offset site to manage biomass levels in consultation with DELWP and an ecologist; and
- Remove stock from low lying areas during periods of inundation to avoid soil pugging.

6.1.2.2 Zones 3 and 4

- Biomass can be maintained in Zone 3 at current levels through the grazing regime proposed in March-April 2021 (noting removal of stock if open ground reaches 40% or greater); and
- As Zone 4 has a higher cover of biomass and weed species and is immediately adjoining higher quality habitat in Zone 3, it is recommended any high threat weeds are treated to minimise potential spread into areas of remnant vegetation adjoining this zone.

6.1.3 Weed control

- Further discussions with DELWP or Agriculture Victoria are recommended to confirm best practice methods for management of South African Weed-orchid.
- Focus management efforts to high threat weeds including Brown-top Bent, Yorkshire Fog and Cape Weed;
- Spear Thistle must be maintained at <1% cover; and
- Cat's Ear should also be focussed on in Zones 1 and 2.

6.1.4 Pest animal control

- Continue monitoring pest animal activity in accordance with the OMS requirements to maintain current levels within the offset site.

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