

Annual Monitoring Report

Spring 2021 / Summer 2022

Vegetation Quality,
Striped Legless Lizard and
Golden Sun Moth population monitoring

North-Western Grassland (EPBC2016/7734)
Southwest and Far-East Grasslands (EPBC2017/8018)
Long Paddock Offset Site, 6165 Hamilton Highway, Cressy

**Annual Monitoring Report
6165 Hamilton Highway, Cressy**

(EPBC2016/7734)

(EPBC2017/8018)

Cover images: "Long Paddock" Offset Site, 6165 Hamilton Highway, Cressy, 2017

Acknowledgments of Country

Practical Ecology acknowledges the Traditional Custodians of the land, the Wurundjeri Woi Wurrung people of the Kulin Nation, on which our office is located. We pay our respects to their Elders, past and present and emerging.

We also acknowledge the Traditional Custodians of the Lands on which we conduct our business throughout Australia. We pay our respects to their Elders, past and present and emerging, and the Aboriginal Elders of other communities who may be present on those lands.

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1. INTRODUCTION

Practical Ecology Pty Ltd was commissioned by Deep Lead Property Pty Ltd to undertake monitoring and associated annual reporting for biodiversity offsets established at Long Paddock Offset Site, 6165 Hamilton Highway, Cressy.

Long Paddock currently has 5 separate offset management agreements in place, each requiring management and monitoring for a 10-year period. The site was established for the protection of several Matters of National Environmental Significance (MNES) listed under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999, including Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP), Golden Sun Moth (GSM) *Synemon plana* habitat, Striped Legless Lizard (SLL) *Delma impar* habitat.

The following two offset agreement areas formed the study area for this report;

- **EPBC 2016/7734** – 17B Copernicus Way Keilor Downs, Soho Living (Biosis 2018)
- **EPBC 2017/8018**– Geelong Bacchus Marsh Road Upgrade, VicRoads (SMEC 2019)

Table 1. Summary of study areas

	Zone Name	Offset Management Zone	Size	Date of Legal Execution
EPBC 2016/7734	Northwest Grassland (NWG)	OMZ-01	5 ha	4th October 2018
EPBC 2017/8018	Southwest Grassland (SWG) Far East Grassland (FEG)	OMZ -02 OMZ -06	16 ha	26 th Sept 2020



Figure 1. Management area pursuant to Offset Agreement [EPBC 2016/7734]



Figure 2. Management areas pursuant to Offset Agreement [EPBC 2017/8018]

2. MONITORING METHODOLOGY

2.1 Vegetation Monitoring Quadrats

A total of 10 monitoring quadrats (5x5m) have been established for monitoring within management area, with south-east corner permanently marked with short star pickets, as well as being GPS located. Quadrat locations were determined in Year 1 of management and based on presence of high weed cover and/or high biomass, as areas which required significant targeted management and may be used as indicators of the success of weed control and biomass management.

During the annual survey in Spring, the following data is recorded:

- Total vegetation cover (% cover)
- Inter-tussock spaces (% cover)
- average height of vegetation (cm)
- Native vegetation (% cover)
- Exotic vegetation (% cover)

Each of the vegetation monitoring quadrats also act as permanent photo points (refer Appendix 2, Map 2) located to adequately characterise the current vegetation condition, and facing each of the four points of the compass (N, S, E & W).

2.2 Golden Sun Moth – Targeted Surveys

Golden Sun Moth (GSM) *Synemon plana* monitoring is undertaken every second year to observe the success of biomass reduction management actions for GSM habitat improvement by recording the number of individuals observed during a survey event. The objective is to confirm that the population is self-sustaining, and that management actions being undertaken for the species are adequate.

The monitoring of GSM is undertaken in accordance with the EPBC Act 'Significant impact guidelines for the critically endangered Golden Sun Moth' (DEWHA 2009) during the flying season, typically commencing from late October onwards within western Victoria, or as identified in correspondence through the Ecological Consultant Association (ECA) Victoria GSM flight diary.

Adequate survey requires effort over at least four suitable days, at approximately weekly intervals during the following conditions;

- Warm to hot day where ambient temperatures are $\geq 20^{\circ}\text{C}$ by 10:00 hrs;
- Surveys undertaken during the warmest part the day, typically between 10:00–14:00 hrs;
- Weather conditions are clear or mostly cloudless sky;
- Still or relatively still wind conditions during the survey period; and
- A period of at least two days since rain.

The offset site is surveyed using 50 m transect intervals across the entire offset area. Transects are recorded using a handheld GPS and a waypoint is taken for each location where Golden Sun Moth are observed. Observations between male and female Golden Sun Moths are be recorded, along with any incidental observations during other site visits.

Table 2. Timing of GSM surveys within the 10 year management periods

Flight season	EPBC 2016/7734	[EPBC 2017/8018]
2018/2019	Year 1	
2019/2020	Year 2	
2021/2022	Year 4	Year 2
2023/2024	Year 6	Year 4
2025/2026	Year 8	Year 6
2027/2028	Year 10	Year 8
2029/2030		Year 10

2.3 Striped Legless Lizard – Biometric Monitoring

The monitoring of Striped Legless Lizard (SLL) *Delma impar* is required to be undertaken in accordance with the EPBC Act 'Referral guidelines for the vulnerable Striped Legless Lizard, *Delma impar*' (DSEWPaC 2011).

A total of 8 monitoring tile grids have been established within the offset areas, approximately 50m apart. Each tile grid consists of an array of 50 tiles, at 5-metre spacing between tiles, arranged in a grid of 10 tiles by five transects.

Tile grids are checked a total of six (6) times between September–December and efforts made to capture all sighted animals. Morphological/Biometric data is collected for all individuals captured to determine of the population structure at the site. This data includes;

- a photograph of the dorsal head–scale detail to categorise individuals at the site (i.e., repeat captures or new individuals).
- location details (grid & tile number)
- snout–vent length measurement (mm)
- tail length measurement (mm)
- point of autotomy (mm from snout) (if present)
- weight (g); and
- sex (if possible)

Table 3. Alpha-numeric Individual ID

Year	SLL Season	Code
1	2020	A
2	2021	B
3	2022	C
4	2023	D
5	2024	E
6	2025	F
7	2026	G
8	2027	H
9	2028	I
10	2029	J

The following cataloguing system was developed in consultation with Megan O'Shea (pers comm. 10/2020), as an appropriate authority on SLL data collection. All observed lizards are assigned an encounter number. This includes any animals that are observed outside of tile surveys, or those that escape capture. Therefore, the total encounter number is representative of all SLL observed within the broader offset property, e.g E0002.

Animals that are captured and processed, where individual characteristics are identified, are assigned an ID number. ID numbers are an alpha-numeric number, which represent the year in which animal was initially processed, along with an ID number (see Table 3 above).

Table 4. SLL grid/management zone

OMZ	Number of grids (tiles)	Grid no.
OMZ-01	2 (100)	11A, 11B
OMZ-02	4 (200)	10A, 10B, 10C, 10D
OMZ-06	2 (100)	1, 2

3. RESULTS

3.1 Vegetation monitoring quadrats

Survey of vegetation monitoring quadrats were completed by Nathaniel Knight on 23rd November 2021.

Quadrat locations are GPS recorded, and temporary pin tags were used to mark the location, to be followed up by installation of short star pickets as permanent markers.

Appendix 2 – Map 2 present the ID number and location of each monitoring quadrats.

Appendix 4 – presents the full data set for quadrat monitoring

Appendix 5 – Quadrat photopoints

The following table provides a summary of the 2021 monitoring results, with 2020 comparison.

Table 5. Summary of results– Vegetation Quadrat monitoring – 2021

	Management Year	Average vegetation height (cm)	Average Inter-tussock space (%)	Average native vegetation cover (%)	Average exotic cover (%)	Average total vegetation cover (%)
OMZ-01	Year 3 – 2020	63	1–5	5–25	75–100	75–100
	Year 4 – 2021	41	1–5	5–25	75–100	75–100
OMZ-02	Year 1 – 2020	59	1–5	5–25	75–100	75–100
	Year 2 – 2021	37	1–5	5–25	50–75	75–100
OMZ-06	Year 1 – 2020	74.5	1–5	5–25	75–100	75–100
	Year 2 – 2021	66	5–25	5–25	75–100	75–100

3.2 Golden Sun Moth

As a population of GSM has been confirmed within the offset site (EHP 2016), there is no requirement to check for species activity at a separate reference site. Surveys were therefore conducted during conditions deemed suitable for GSM activity based on weather bureau forecast information.

No Golden Sun Moth were detected during the targeted surveys completed within the 2021/2022 flight season.

Table 6. GSM survey conditions – 2021/2022 survey season

	SURVEY 1		SURVEY 2		SURVEY 3		SURVEY 4	
Date	29/11/2021		24/12/2021		13/1/2022		24/1/2022	
Survey area	East	West	East	West	East	West	East	West
Wind direction	E	NW	E	NE	E	E	SE	SE
Avg Wind speed (km/h)	10	12	12	8	20	24	13	15
Air temperature (°C)	20.3	24.2	21.4	23.3	24.6	28.4	27.9	29.6
Relative humidity (%)	68	46	74	32	76	43	74	35
Golden Sun Moths seen?	0 males 0 females		0 males 0 females		0 males 0 females		0 males 0 females	

3.3 Striped Legless Lizard

Within the 2021 survey season, a total of 26 encounters were recorded, and 18 animals were captured and identified, with 1 recapture.

Surveys were conducted under Practical Ecology WSIAEC (Animal Ethics) Unrestricted Access, and Scientific Fieldwork Procedures Licence (SPFL) 20407. All surveys are undertaken by experienced and qualified zoologists' familiar with the biology and appearance of the species, with competency formally assessed by Megan O'Shea.

Biometric data and head-scale photos of identified animals are presented as Appendix 7 and Appendix 8.

Table 7. Summary of 2021 SLL records

OMZ	Number of grids (tiles)	Captures	Recaptures	Observed, not captured	Total Encounters	Encounters/Survey *
OMZ-01	2 (100)	3	1	1	4	0.04
OMZ-02	4 (200)	11	0	2	13	0.065
OMZ-06	2 (100)	4	0	3	7	0.07
other	x			2	2	
TOTAL		18	1	7	26	

Table 8. 2020 and 2021 SLL survey results summary

Year	Encounters	New Individuals (catalogued)	Recaptures
2020	18	10	0
2021	26	18	1

4. DISCUSSION

4.1 Vegetation and Biomass

Completion of vegetation monitoring has found that all monitoring plots contain very high exotic cover, low native cover, particularly lacking presence of native herbs, with insufficient inter-tussock separation. This is largely due to presence and growth habit of Toowoomba Canary-Grass and Fog Grass at the time of assessment. While the landowners have made efforts to use grazing as the main method of biomass control, the results deem the approach to be ineffective in maintaining adequate levels of biomass or improving the values of the native grassland. Issues with grazing may be relative to both timing and stocking rates and seasonal factors must be considered in adjusting management actions to reduce threats to the values of the site. It is understood that at the time of writing this report, works to install additional internal fencing are in progress at the Offset site, to better facilitate rotational grazing and targeting of problem areas. The results of future monitoring will determine the effectiveness of any adjustments to the grazing regime and should be carefully reviewed for ongoing improvement to reestablish the presence of native vegetation and inter-tussock separation.

4.2 Golden Sun Moth

Conditions within the offset areas are currently not adequate in providing habitat for Golden Sun Moth. Baseline GSM surveys conducted in 2016 (EHP, 2016) recorded 90 observations of GSM for the entire property and noted the high cover of annual grasses and the potential threat to the GSM habitat within the site, particularly in the eastern portion (OMZ-06). Again, seasonal conditions associated with La Nina 2020–2022 event are a factor, and the cover/abundance of annual exotic grasses appears to have increased since the original assessments. Landowners must consider other approaches to biomass control (i.e. ecological burning) along with timed grazing and weed control to reduce the threat of high biomass and exotic cover and restore suitable habitat for GSM to ensure the population persists.

4.3 Striped Legless Lizards

Conditions on the site, despite high biomass and exotic cover, appear to have not significantly affected the existing population of SLL on the site. 18 new individuals were catalogued within the 2021 monitoring period, with a total of 28 individuals identified across the three offset management areas since commencement of monitoring in 2020. 1 individual was recaptured in this 2021 survey season, the first recapture for the site. Note that recapture rates may be analysed after several years of monitoring to inform understanding of population dynamics of SLL within the offset areas. At this stage, the results show that the population, as determined through number of encounters and individual identification, is stable and potentially increasing, with recorded observations increasing each survey year.

5. REFERENCES

- Biosis (2018) *Copernicus Way EPBC Act (EPBC 2016/7734) Offset Management Plan: 6165 Hamilton Highway Cressy*. Melbourne.
- Commonwealth of Australia (2012) *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*. Commonwealth of Australia,.
- DEWHA (2009) *Significant impact guidelines for the critically endangered golden sun moth (Synemon plana)*. Department of Environment, Water, Heritage and Arts, Canberra, ACT.
- DSEWPaC (2011) *Referral guidelines for the striped legless lizard, Delma impar*. Department of Sustainability, E., Water, Population and Communities, Australian Government, Canberra.
- Ecology and Heritage Partners (2016) *Targeted Golden Sun Moth Synemon plana within a proposed offset site, Hamilton Highway, Cressy, Victoria*. Geelong
- SMEC (2019) *Offset Management Plan. Geelong Bacchus Marsh Road Upgrade Project Victoria [EPBC 2017/808]* Melbourne

Appendix 1. Maps

Map 1 – Offset Site Summary

Map 2 – Vegetation Monitoring – OMZ-01

Map 3 – Vegetation Monitoring – OMZ-02














Map 4 – Vegetation Monitoring – OMZ-06

Offset Monitoring Summary


6165 Hamilton Highway, Cressy



Legend

-  Subject site
-  Contours (10m)
-  Parcels
-  Watercourse
-  Domestic zones
-  Building envelope
-  DFC 29.1ha (EPBC 2011/6063)
-  NTG 5.86ha (EPBC 2012/6557)
-  SHW 6.1ha (EPBC 2012/6557)
-  SHW 2.52ha (EPBC 2017/7918)
-  SLL 5ha (EPBC 2016/7734)
-  Offset 16ha VicRoads (EPBC 2017/8018)
-  Remaining habitat (0.9ha)

Details
 Date: 16/01/2019
 Aerial photography from Google Earth Pro (April 2015).
 Base map data Copyright © The State of Victoria.

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 Scale 1:10,187 (Page size A3)

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Legend

- Offset Area - Soho
- Offset Management Zones

Native vegetation (% cover)

- 1 (1-5%)
- 2 (6-25%)
- 3 (26-50%)
- 4 (51-75%)

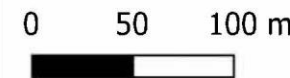
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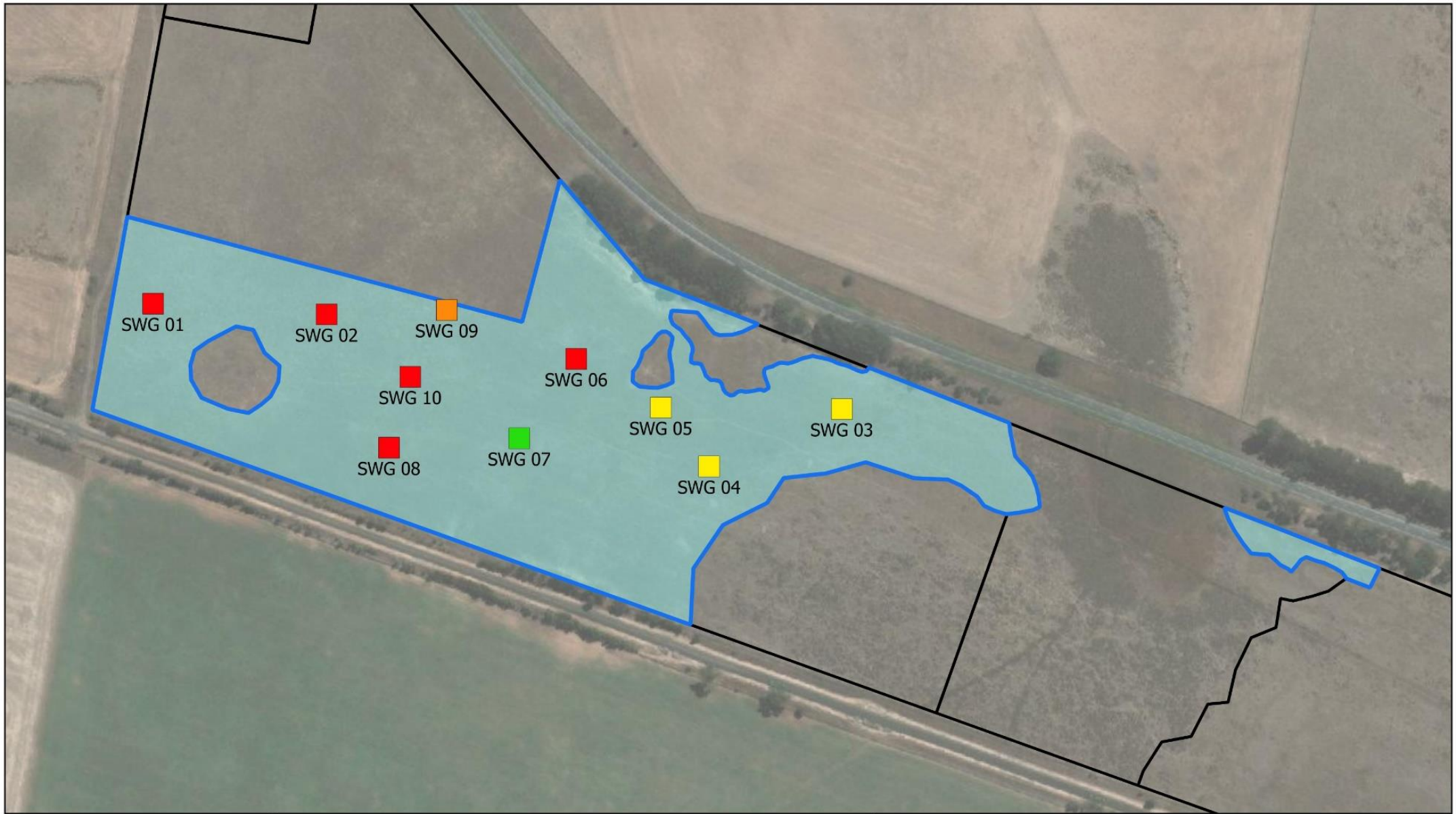
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Version: 1
Created by: Emma Wilkin

Data Source:
Aerial Photography from Esri Satellite

Vegetation Quadrat Monitoring 2021

6165 Hamilton Hwy Cressy





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Legend

- Offset Area - RRV
- Offset Management Zones

Native vegetation (% cover)

- 1 (1-5%)
- 2 (6-25%)
- 3 (26-50%)
- 4 (51-75%)

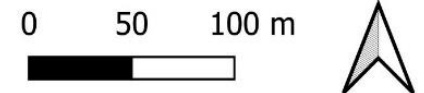
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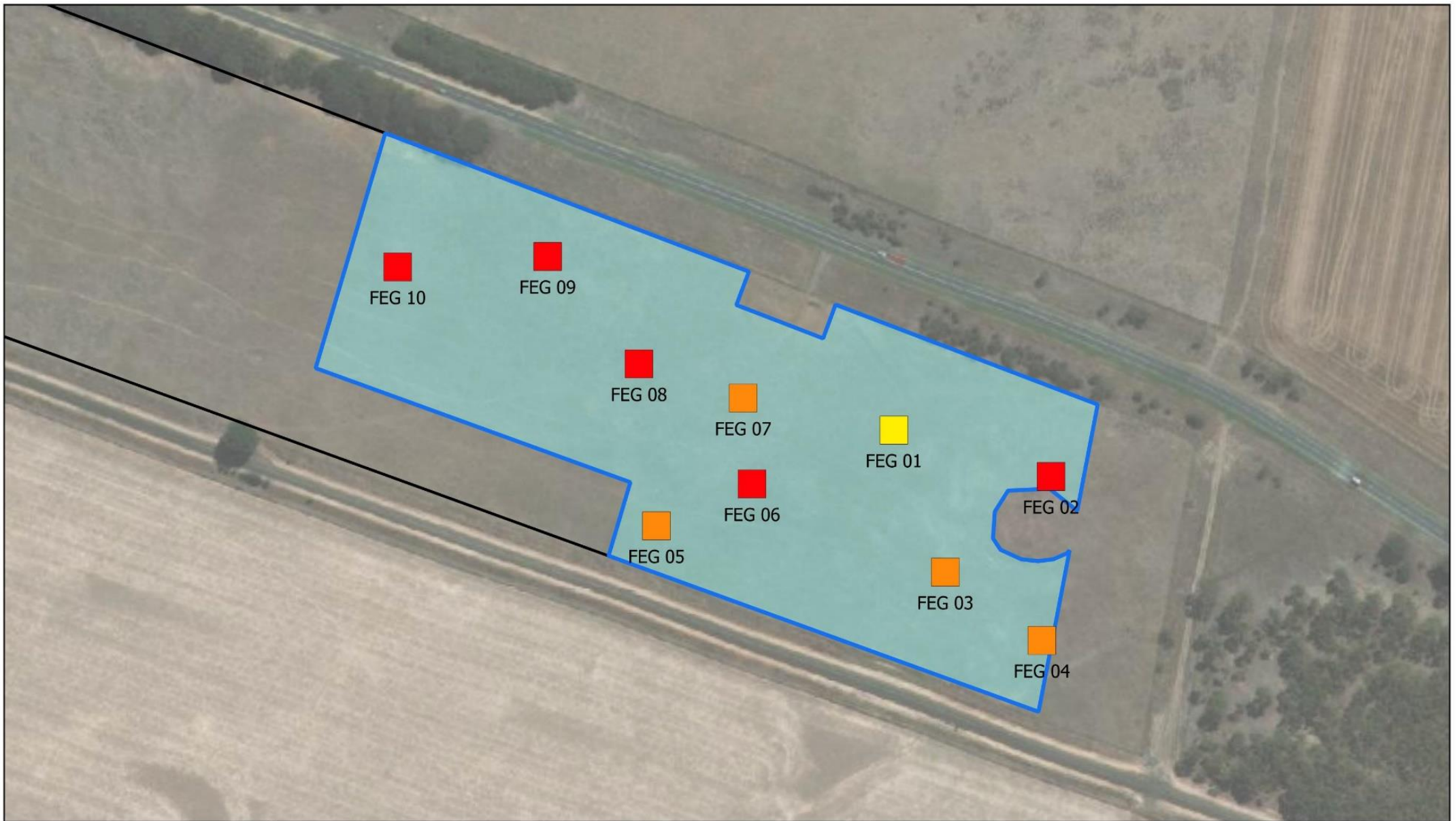
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Version: 1
Created by: Emma Wilkin

Data Source:
Aerial Photography from Esri Satellite

Vegetation Quadrat Monitoring 2021

6165 Hamilton Hwy Cressy







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Legend

-  Offset Area - RRV
-  Offset Management Zones

Native vegetation (% cover)

-  1 (1-5%)
-  2 (6-25%)
-  3 (26-50%)
-  4 (51-75%)

Details

Date: 25 June 2022
 Version: 1
 Created by: Emma Wilkin

Data Source:
 Aerial Photography from Esri Satellite

Vegetation Quadrat Monitoring 2021

6165 Hamilton Hwy Cressy

0 40 80 m



Appendix 2. Quadrat Vegetation Monitoring Data 2021

ID	date	CP	quad_no	avg_hgt_cm	int_tuss_1%	cov_nati_%	cov_exot_%	total_veg_%	Comments
North-West Grassland – OMZ 01									
NWG 01	23/11/2021	NK	1	15	1-5	1-5	75-100	75-100	Thistle, oats, hypoc
NWG 02	23/11/2021	NK	2	50	1-5	1-5	75-100	75-100	Phalaris, cocksfoot
NWG 03	23/11/2021	NK	3	40	1-5	1-5	75-100	75-100	Brome, phalaris, cocksfoot
NWG 04	23/11/2021	NK	4	45	1-5	1-5	75-100	75-100	Brome, fog, phalaris
NWG 05	23/11/2021	NK	5	50	1-5	1-5	75-100	75-100	Brome, fog
NWG 06	23/11/2021	NK	6	50	1-5	1-5	75-100	75-100	Brome, Thistle, phalaris
NWG 07	23/11/2021	NK	7	40	1-5	1-5	75-100	75-100	Brome, Phalaris
NWG 08	23/11/2021	NK	8	70	1-5	1-5	75-100	75-100	Brome, oats, phalaris
NWG 09	23/11/2021	NK	9	20	1-5	1-5	75-100	75-100	Thistles, phalaris
NWG 10	23/11/2021	NK	10	30	1-5	1-5	75-100	75-100	Thistles, hypoc
Far East Grassland – OMZ 06									
FEG 01	23/11/2021	NK	1	60	25-50	25-50	50-75	75-100	Fog, hypoc, themeda
FEG 02	23/11/2021	NK	2	70	1-5	1-5	75-100	75-100	fog, hypo, thistle
FEG 03	23/11/2021	NK	3	70	5-25	5-25	75-100	50-75	Fog, hypoc, juncus
FEG 04	23/11/2021	NK	4	60	1-5	5-25	75-100	75-100	York fog, thistle, hypoc
FEG 05	23/11/2021	NK	5	60	25-50	5-25	75-100	75-100	Fog, hypoc, themeda briza max
FEG 06	23/11/2021	NK	6	60	25-50	1-5	75-100	75-100	Fog, hypoc, themeda
FEG 07	23/11/2021	NK	7	60	25-50	5-25	75-100	75-100	Fog, hypoc, themeda
FEG 08	23/11/2021	NK	8	70	5-25	1-5	75-100	75-100	Fog, hypoc, themeda
FEG 09	23/11/2021	NK	9	80	5-25	1-5	75-100	75-100	Fog, oats, briza max (faded tag)
FEG 10	23/11/2021	NK	10	70	1-5	1-5	75-100	75-100	Fog, phalaris, hypoc
South-West Grassland – OMZ 02									
SWG 01	23/11/2021	NK	1	50	1-5	1-5	75-100	75-100	Fog, phalaris, oats
SWG 02	23/11/2021	NK	2	1	1-5	1-5	75-100	75-100	avena, bromus spp, vulpia
SWG 03	23/11/2021	NK	3	20	5-25	25-50	50-75	50-75	Hypoc, themeda, briza maxima
SWG 04	23/11/2021	NK	4	10	1-5	25-50	25-50	75-100	Hypoc, briza, juncus
SWG 05	23/11/2021	NK	5	10	25-50	25-50	50-75	50-75	Hypoc, caloceph, themeda
SWG 06	23/11/2021	NK	6	15	1-5	1-5	75-100	75-100	Briza, hypoc, phalaris
SWG 07	23/11/2021	NK	7	30	1-5	50-75	25-50	75-100	Stipa, hypoc, juncus
SWG 08	23/11/2021	NK	8	25	1-5	1-5	75-100	75-100	Phalaris, hypoc, juncus
SWG 09	23/11/2021	NK	9	15	5-25	5-25	50-75	75-100	Wallaby, hypoc, fog
SWG 10	23/11/2021	NK	10	45	1-5	1-5	75-100	75-100	Fog, hypoc, briza

Appendix 3. Quadrat Photopoints Nov 2021

North-West Grassland (OMZ-01) – Quadrat 1



North



East



South



West

North-West Grassland (OMZ-01) – Quadrat 2



North



East



South



West

North-West Grassland (OMZ-01) – Quadrat 3



North



East



South



West

North-West Grassland (OMZ-01) – Quadrat 4



North



East



South



West

North-West Grassland (OMZ-01) – Quadrat 5



North



East



South



West

North-West Grassland (OMZ-01) – Quadrat 6



North



East



South



West

NWG-07



North



East



South



West

NWG-08



North



East



South



West

NWG-09



North



East



South



West

NWG-10



North



East



South



West

SWG-01



North



East



South



West

SWG-02



North



East



South



West

SWG-03



North



East



South



West

SWG-04



North



East



South



West

SWG-05



North



East



South



West

SWG-06



North



East



South



West

SWG-07



North



East



South



West

SWG-08



North



East



South



West

SWG-09



North



East



South



West

SWG-10



North



East



South



West

FEG-01



North



East



South



West

FEG-02



North



East



South



West

FEG-03



North



East



South



West

FEG-04



North



East



South



West

FEG-05



North



East



South



West

FEG-06



North



East



South



West

FEG-07



North



East



South



West

FEG-08



North



East



South



West

FEG-09



North



East



South



West

FEG-10



North



East



South



West

Appendix 4. SLL surveys 2021: Summary

Survey no	date	Encounter ID	Grid no.	Tile no	captured	recapture	ID no.	sex	OMZ	
1	8/10/2021	E0019	10B	J2	yes	no	B11	?	OMZ-02	
		E0020	10D	J1	yes	no	B12	F?	OMZ-02	
		E0021	10D	B2	yes	no	B13	?	OMZ-02	
		E0022	10D	B5	yes	no	B14	M?	OMZ-02	
		E0023	2	B5	yes	no	B15	F?	OMZ-06	
2	18/10/2021	E0024	10D	D2	yes	no	B16	M	OMZ-02	
		E0025	11A	A5	yes	no	B17	M	OMZ-01	
3	27/10/2021	E0026	11A	D2	yes	no	B18	F	OMZ-01	
4	4/11/2021	E0027	10D	B1	yes	no	B19	M	OMZ-02	
		E0028	10A	G4	yes	no	B20	F	OMZ-02	
		E0029	10A	H5	yes	no	B21	F	OMZ-02	
		E0030	11A	A5	yes	yes	B17	M	OMZ-01	
		E0031	1	J2	yes	no	B22	F	OMZ-06	
		E0032	1	A2	no	-	-	-	OMZ-06	
		E0033	2	J5	yes	no	B23	F?	OMZ-06	
5	17/11/2021	E0034	10D	D4	no	-	B24	-	OMZ-02	
		E0035	10D	D5	no	-	-	-	OMZ-02	
		E0036	10D	I5	yes	no	B25	F	OMZ-02	
		E0037	10A	G5	no	-	-	-	OMZ-02	
		E0038	2	I1	yes	no	B26	F?	OMZ-06	
		E0039	2	G4	no	-	-	-	OMZ-06	
x	23/11/2021	E0040	8/9	x	no	-	-	-	x	
x	30/11/2021	E0041	9	x	no	-	-	-	x	
6	3/12/2021	E0042	10A	G2	yes	no	B27	F	OMZ-02	
		E0043	11A	E3	no	-	-	-	OMZ-01	
		E0044	1	A2	no	-	B28	-	OMZ-06	

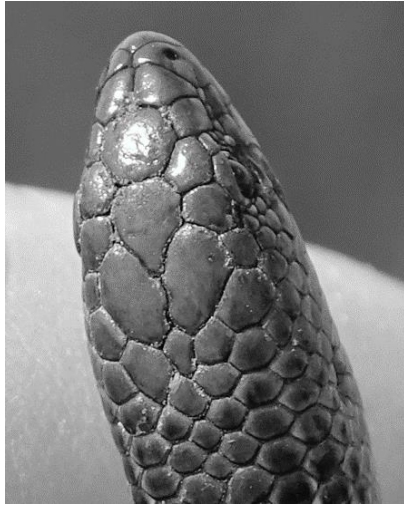
Appendix 5. SLL surveys 2021: Biometric Data

Encount	ID	Date	Grid_no	Tile_no	SVL_mm	tail_mm	total_mm	auto_mm	weight_g	sex	hand_min	wound_T1	cond_T1	cond_T2	auto_hand	notes
E0019	B11	8/10/2021	10B	J2	90	175	265		3.3	?	17	SG	GC	GC	No	tail autotomised (fresh) prior to capture
E0020	B12	8/10/2021	10D	J1	89	121	210		2.8	F?	18	N	GC	GC	No	
E0021	B13	8/10/2021	10D	B2	41	72	113		2.5	F	7	N	GC	GC	No	
E0022	B14	8/10/2021	10D	B5	71	139	210		2.5	M?	10	N	GC	GC	No	
E0023	B15	8/10/2021	2	B5	73	130	203		2.8	F?	13	N	GC	GC	No	broken stripe on left shoulder
E0024	B16	18/10/2021	10D	D2	83	192	275		3.2	M	16	N	GC	GC	No	
E0025	B17	18/10/2021	11A	A5	87	77	164	111	2.9	M	17	N	GC	GC	No	
E0026	B18	27/10/2021	11A	D2	75	90	165		3.9	F	17	N	GC	GC	No	
E0027	B19	4/11/2021	10D	B1	82	175	257		3.1	M	12	N	PC	PC	No	animal lethargic, cold to touch, no external injuries, no other signs of distress. animal still able to move and still somewhat active, returned under tile after 10 min observation/rest in bag (update 17/11/2021 - animal not found under release tile on subsequent survey)
E0028	B20	4/11/2021	10A	G4	66	119	185			F	18	N	GC	GC	No	
E0029	B21	4/11/2021	10A	H5	78	185	263		3	F	15	N	GC	GC	No	
E0030	B17	4/11/2021	11A	A5	88	85	173	118	3.5	M?	16	N	GC	GC	No	
E0031	B22	4/11/2021	1	J2	84	145	229		3	F	16	N	GC	GC	No	
E0032		4/11/2021	1	A2												
E0033	B23	4/11/2021	2	J5	80	80	160	134	2.9	F?	18	N	GC	GC	No	
E0034	B24	17/11/2021	10D	D4												skin only with head scales intact
E0035		17/11/2021	10D	D5												Incidental - observed in grass next to tile
E0036	B25	17/11/2021	10D	I5	100	185	285		6.4	F	17	N	GC	GC	No	
E0037		17/11/2021	10A	G5												
E0038	B26	17/11/2021	2	I1	69	155	224		3.25	F?		N	GC		No	
E0039		17/11/2021	2	G4												
E0040		23/11/2021	8/9	x												Incidental - observed during biomass assessments
E0041		30/11/2021	9	x												Incidental - observed during GSM - south-east of (old) tile grid 9
E0042	B27	3/12/2021	10A	G2	94	103	197	139	7.7	F	12	N	GC	GC	No	gravid
E0043		3/12/2021	11A	E3												
E0044	B28	3/12/2021	1	A2												skin only - head scales intact

Wound code: SG- significant wound, N- no wounds

Condition code: GC - good condition, PC - poor condition

Appendix 6. SLL surveys 2021: Head-scale photos



B11



B12



B13



B14



B15



B16



B17



B18



B19



B20



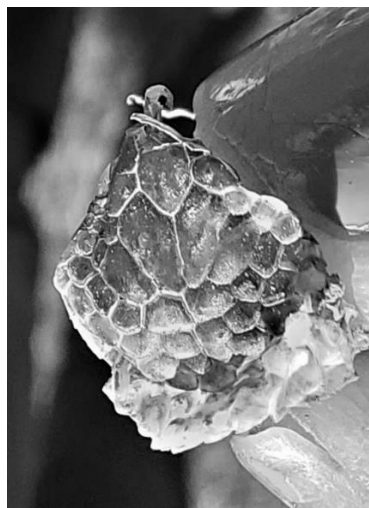
B21



B22



B23



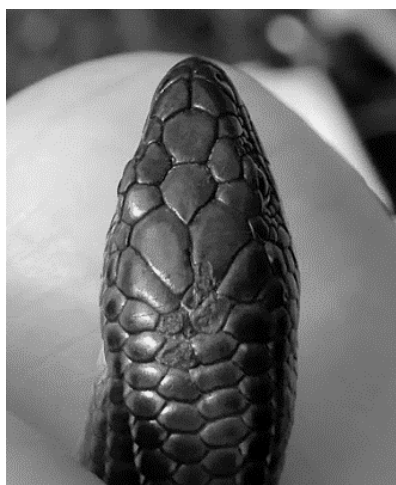
B24 – skin only



B25



B26



B27



B28