**Warrambeen Offset Management**
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250
e. offsets@warrambeen.com

# Annual Offset Management Plan Report

| | |
|---|---|
| Landowner of offset site | Ian and Trish Taylor |
| Location and address of offset site | "Woolly and Creek Paddocks"<br>Lot 1 TP16458<br>Warrambeen Pty Ltd,<br>Rokewood – Shelford Rd, Shelford. |
| Offset Proponent | **Rosenthal** |
| Responsible Authority | Golden Plains Shire, DSE and DEWHA |
| Report number / Year<br>Start Year | **Year 3 / 2017**<br>2015 |
| Type of Offset<br>Size of Offset | Vegetation and Golden Sun Moth<br>86 Ha |
| Signature | Ian D. Taylor. |
| Date | 24th May 2018 |

**Information to be included:**

- A copy of the Management Action Table from the OMP with information on which actions have been completed for the year/s of this reporting period;
- A description of the specific monitoring results from surveys undertaken for vegetation/flora species;
- A description of the specific monitoring results from surveys undertaken for significant fauna species, such as the Golden Sun Moth
- Fencing work;
- Success of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing, etc.)
- Include any corrective actions and contingency measures where monitoring indicates that there has been a degradation in the native vegetation and Golden Sun Moth population and habitat; and,

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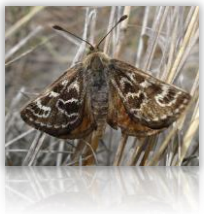

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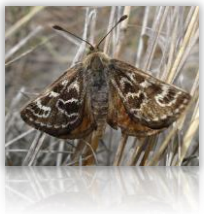

# Monitoring results for significant fauna species, such as the Golden Sun Moth

**(Excerpt from Ecology & Heritage Partners Final Report April 2018 DRAFT)**

"Targeted surveys identified a total of 320 Golden Sun Moth flying within the Rosenthal offset site between 22–30 November 2017 and during favourable conditions (Table 2; Figure 3). Golden Sun Moth was detected across the entire offset site and given the majority of the site contains suitable host plants, the species was recorded using most areas of the offset site during the assessment."

Table 1. Golden Sun Moth Population Monitoring within the Rosenthal offset site during previous monitoring periods.

| Survey Year | Golden Sun Moth Abundances | Management Recommendations |
|---|---|---|
| 2015/16 (Baseline Data – Year 1) | 62 moths over three days (30 November, 4 and 17 December 2015) | The offset site was considered to provide favourable habitat for Golden Sun Moth at the time of the targeted surveys (Ecology and Heritage Partners Pty Ltd 2016). |
| 2016/17 (Year 2) | 238 | The results of Golden Sun Moth surveys indicate that a high overall population density of the species remains within the Rosenthal offset site. Additional biomass control and weed management is recommended to increase the overall habitat quality of remnant vegetation and Golden Sun Moth in subsequent years of the OMP implementation. |
| 2017/18 (Year 3) | 320 | The results of Golden Sun Moth surveys indicate that a high overall population density of the species remains within the Rosenthal offset site. Additional biomass control and weed management is recommended to increase the overall habitat quality of remnant vegetation and Golden Sun Moth in subsequent years of the OMP implementation. |

Table 2. Golden Sun Moth survey results during the 2017/18 flight season.

| Date | Survey times | Reference Site | Temperature (oC) (9am and 3pm) | | Wind (km/hr) | Cloud cover (%) | No. of days since rain | No. GSM |
|---|---|---|---|---|---|---|---|---|
| 7/12/2016 | 08:30 – 14:15 | Flying during survey | 17.2 | 24.2 | 9 | 5% | 2 | 238 |
| 22/11/2017 | 13:00 – 16:30 | Flying during survey | 24.8 | 31.0 | 22 | 15 | >4 | 96 |
| 30/11/2017 | 13:00 – 16:30 | Flying during survey | 25.6 | 26.1 | 26 | 15 | >2 | 224 |

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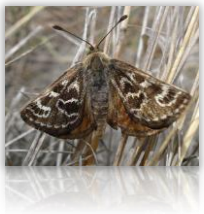

# Monitoring results for vegetation/flora species

**(Excerpt from Ecology & Heritage Partners Final Report April 2018 DRAFT)**

"The study area comprised Plains Grassland in good condition. Four habitat zones (areas of differing quality) were recorded.
Annual low threat grassy weed cover has increased since the baseline assessment and previous monitoring events. This subsequently resulted in an increase in overall biomass and reduction in overall vegetation condition score. Vegetation condition within the offset site has degraded, primarily as a result of an increase in annual weed cover and/or an emerging infestation of Spear Thistle Cirsium vulgare.

The predominant weed species within the study area was Wild Oat Avena fatua, which will require active management to ensure the percentage cover of biomass meets the objectives of the OMP (Plates 1 – 6) (Section 4; Figure 2). However, despite implementing the biomass regime as outlined within the OMP, the biomass has increased. As such, the management actions within the OMP require a review (Section 5). Other dominant weeds include Quacking-grass Briza maxima, Squirrel-tail Fescue Vulpia myuros, Soft Brome Bromus hordeaceus subsp. hordeaceus and Cat's Ear Hypochoeris radicata.

> High threat weeds recorded comprised, Toowoomba Canary-grass Phalaris aquatica and the noxious Serrated Tussock Nassella trichotoma and Spear Thistle. ."

# Fencing work

> Fencing undergoes regular checks and maintenance as per the Farm program, all are in good condition and stock proof.

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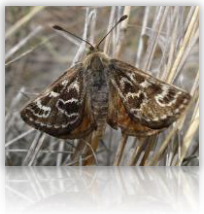

# Success of weed and pest animal control work

## Biomass Control:

- No signs of pugging
- Serrated Tussock: - Sprayed with Round up and wetting agent in a grid formation.
- Crash grazing with sheep occurred in early spring. Due to heavy rains, grazing access was limited.

| Date In | Date Out | Number of Sheep | |
|---|---|---|---|
| 19.05.2017 | 31.05.2017 | 2685 | MA A Flock |
| 13.07.2017 | 17.07.2017 | 2056 | MA A Flock |
| 20.07.17 | 26.09.2017 | 159 | MA A Single ewes |

## Weed Cover / Control:

Mr Phil Sparkes was engaged to grid spray the paddock, along with Farm staff and Ian Taylor.

- Fluroproponate, Round Up and colour dye.
- Low numbers of serrated tussock found.
- Successful reduction of the high threat weed Saffron Thistle.
- Spear Thistle *Cirsium vulgare* has since established within the site

## Fox and Rabbit Control:

- Ongoing Bi Monthly shooting programme maintained with registered shooter.
- No warrens have been located so no fumigation or ripping has been conducted.
- Rabbit scats are observed infrequently.

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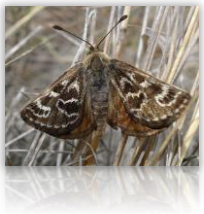

# Successful management tools

(i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.)

The combination of Grid Spraying in spring and crash grazing in the dryer months is proving to be successful in reducing Serrated Tussock and reducing Saffron Thistle. No pugging is evident from grazing within the paddock, and a herb-rich understorey has been maintained.

# Problems or issues experienced

(i.e. new infestation of weed species, storm damage to fencing, etc.)

We have found that despite our best efforts and following the OMP regime, invasive weed species such as wild oat and Spear Thistle, have grown in very large numbers. This has been common across much of the Western District.

# Corrective actions and contingency measures

(Where monitoring indicates that there has been a degradation in the native vegetation and Golden Sun Moth population and habitat)

As recommended by Dr Andrew Warnock, (EH&P) Warrambeen will apply to the relevant authorities to change the OMP grazing regime to help reduce weed cover and keep biomass levels under control and on target. Warrambeen will undergo an intensive wick spraying regime to significantly reduce the instance of the Spear Thistle, along with targeting other weeds with intensive spot spraying.

# Management Plan 2018

1. Continue Biomass Control using crash grazing during the dry months to maintain the overall biomass cover to 70% across the entire offset site.
2. Strategic grazing will be implemented to reduce the spread of annual weeds on site.
3. Additional active weed control concentrating on Spear Thistle.

# Attachments

## Appendix 1 – Management Action Table

| Actions | Management action | Resource | Timing of action | Key performance target | Completed (Yes/No) | Date |
|---|---|---|---|---|---|---|
| | | | | | | |
| 3.1 | Conduct weed control | Landowner | At least three times per year, late winter, early spring and late spring | Reduce high threat weeds to <1% and medium threat weeds to <5%. Control, and if possible, reduce cover of low threat weeds. | Partially met. Saffron Thistle successfully eliminated. Spear Thistle requires active management to meet <1% thresholds as per the OMP. Cover of annual grasses is increasing. Review of management actions outlined in Section 5 to ensure low threat weed targets within CMP are met. | See Section 4 above. Control methods to be provided by Ian Taylor (landholder) |
| 3.2 | Monitor populations of pest animals and conduct control works if required | Landowner / Pest Animal Contractor | After peak breeding season - late summer/early autumn | No increase in pest animal activity from approval of this plan; and,<br>Minimal soil disturbance and no native vegetation loss from pest animal management activities. | Yes | Provided by Ian Taylor (landholder) |
| 3.3 | Conduct monitoring for vegetation and Golden Sun Moth and progress reporting | Suitably qualified ecological specialist | October to early January | Golden Sun Moth has persisted in grassland areas and to ensure that management actions and habitats are suitable for a viable Golden Sun Moth population in the future. | Yes | See Section 3.1 above. |
| 3.4 | Maintain fences | Landowner/ Fencing Contractor | As required | No gaps/holes in fences | Yes | Provided by Ian Taylor (landholder) |

# Appendix 2 – Chemical Drum