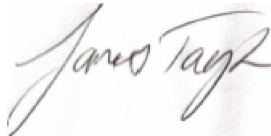




Landowner of offset site	Ian, Trish and James Taylor
Location and address of offset site	“Woolly and Creek Paddocks” Lot 1 TP16458 Warrambeen Pty Ltd, Rokewood – Shelford Rd, Shelford.
Offset Proponent	Rosenthal
Responsible Authority	Golden Plains Shire, DSE and DEWHA
Report number / Year Start Year	Year 8 / 2022 2015
Type of Offset Size of Offset	Vegetation and Golden Sun Moth 86 Ha
Signature	
Date	28/03/23

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,

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

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



Table of Contents

Summary of Independent Monitoring Assessment	3
Monitoring results for vegetation/flora species	3
GSM Monitoring	4
Successful management tools	4
Photos	5
Weed and pest animal control work	5
Biomass Control:	5
Weed Cover / Control:	6
Fox and Rabbit Control:	6
Fencing work	7
Management Plan 2022	8
Photos - Taken 28th November 2022	9
Appendix 1 – Management Action Table	13
Appendix 2 - Chemical Drum	14
Appendix 3 – Weed Control	15
Appendix 4 – Offset Reviews	20



Summary of Independent Monitoring Assessment

(Excerpt from Austral research and consulting report March 2023)

“There is evidence that ongoing works to control Spear Thistle, Saffron Thistle, Toowoomba Canary-grass, Yorkshire Fog and Serrated Tussock has helped to reduce these weeds over the past year. Follow up control in previous spray zones is needed to ensure they don’t become reinfested. Spear, Saffron and Sow Thistle are high threat broadleaf weeds that need to be closely monitored to ensure they don’t set seed. For these weeds, broadleaf herbicides such as Lontrel should be explored, and used with care around native herbs (although there are generally few in these areas). Lontrel will provide good selective control through native grasses, quick termination of seed heads, and some residual benefits (J Knowles 2015 pers. comm). This should be a priority in the warmer months when these broadleaf weeds are most active. During cooler weather, control of Yorkshire Fog and Phalaris should be a priority..... Control of weed infection points such as boundaries and neighboring paddocks should be a focus to prevent invasion of weeds into the site.”

Monitoring results for vegetation/flora species

(Excerpt from Austral research and consulting report March 2023)

“The study area is predominantly covered with native grasses, primarily Spear-grass. Other common species include Wallaby-grass, Common Tussock-grass (*Poa labillardierei*), Weeping Grass (*Microlaena stipoides*) and Kangaroo Grass (*Themeda triandra*). Kangaroo Grass was seeding heavily at the time of the assessment, in stark contrast to the previous summer where it had been heavily grazed.

Scattered shrubs including Sweet Bursaria (*Bursaria spinosa*) and Tree Violet (*Melicytus dentata*) which occur within rocky outcrops and near the creek line with no regeneration evident. Native herb species are lightly scattered throughout the site, with most species prevalent around rocky outcrops. Common species include Blue Devil (*Eryngium ovinum*), Tough Scurf-pea (*Cullen tenax*) (Endangered under the Victorian FFG Act) (Department of Energy, Environment and Climate Action, 2022), Southern Tick-trefoil (*Desmodium gunnii*), Variable Glycine (*Glycine tabacina*) and Bindweed (*Convolvulus* sp.) The vegetation on site represents Plains Grassland EVC 132 (Ecological Vegetation Class) (Department of Energy, Environment and Climate Action, 2022).....Yorkshire Fog (*Holcus lanatus*) and Toowoomba Canary-grass (*Phalaris aquatica*) are high threat perennial grasses in depressions, drainage lines and in close proximity to the creek. There is an obvious reduction in these weeds this year due to recent spraying, although damage to off-target native species were observed.....Weedy annual grasses are present throughout the entire site, especially (*Vulpia* spp.) and RyeGrass (*Lolium* sp.). Although mostly dead at the time of the survey, these species occupy inter-tussock space between native grasses.....Weeds were substantially less amongst Kangaroo Grass compared with other native grass species...High biomass areas generally occur on lower slopes and depressions, and to a lesser degree in dry areas that support a high quantity of rock. Areas of lower biomass were generally typified by Wallaby-grass with Lesser Hawkbit occupying the inter-tussock spaces. It is clear from the assessment that high biomass has become a concern and if left unchecked may result in a loss of Golden Sun Moth habitat and a reduction in Golden Sun Moth numbers. It is understood that the landowner has followed all management actions prescribed in the OMP and as recommended in previous assessments. Despite undertaking all recommended management actions within the limitations of the OMP, biomass has steadily increased since establishment of the offset site. Potential management actions to mitigate this issue are discussed in sections 6.1 and 6.2.

The landowner has reported that the high levels of biomass are due to the inability for the landowner to graze when the soil is waterlogged due to the risk of pugging. Historically these native areas were stocked and grazed throughout the winter period. The 2021/22 and 2022/23 seasons have been reported by the landowner as being some of the wettest in the last 20 years and no winter grazing



was allowed under the conditions specified in the OMP.”

GSM Monitoring

N/A

Successful management tools

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

During winter we undertook a more traditional approach of longer grazing periods with less sheep - this was how the areas were originally managed. We were thrilled by the effectiveness of this approach with little to no visible pugging issues and really great biomass levels. We will absolutely continue this in the future. We acknowledge this is not the preferred management approach in relation to grazing, some grazing is better than none and grazing with large numbers of sheep when wet can cause a lot more challenges. We are looking forward to seeing the results from this year's vegetation surveys. We feel our weed control techniques, ability to recruit staff, water point placement, equipment and managing staff are second to none. We get excellent results and are seeing significant reductions in Serrated Tussock, Scotch Thistles and Phalaris on the Rosenthal site. We are struggling with the annual grasses and fog grass which is much better controlled by grazing. We really need some dry years to help with this and less rain in spring.

We are thrilled with the success of the Phalaris and spear thistle control, the numbers are well down on previous years and while it is a long process we are seeing a large drop in plant numbers. There are large tracts of Themeda and Wallaby grass on the offset and these areas are expanding, we also noticed spread out areas of herbs where last year's seeds have been shed and then new plants are popping up.

It has now been 2 years since we stopped chipping thistles on our offsets, we have definitely concluded that spot spraying is far more effective. Drastically lower thistle numbers have been noticed within the Rosenthal offset this year. Leaving even a leaf seemed to extend the longevity of the thistles and did not eradicate them. It should be noted that although the winter spray was hard on staff due to the wet and cold conditions it has made a gigantic difference to thistle numbers.

To aid in reporting we have set up messenger chat groups for the offset which allows photos and comments to be posted and easily captured. We are very happy with this storage technique. The broad leaf plants - sheep's burr and blue devil have been very prevalent and while the biomass has been much greater than the targets hopefully the variety of plants discovered will help.

Our network of water points at easily accessible locations has been very useful and again saved time.



Photos

Photographs on USB stick are available on request and also attached to the end of this report

Weed and pest animal control work

Biomass Control:

Biomass levels are regularly monitored by landowners and staff throughout the year. Biomass control has been very difficult this year in the offsets due to such a wet year, the ground was waterlogged in November and prevented grazing. Normally the paddock would have been grazed down in Autumn but this year this was impossible under the OMP as doing so would have created major pugging issues.

The last drive around showed the Biomass levels are higher than required at 85% (15 bare ground)

Review completed 28/02/2022 - 15% bare ground

Review completed 07/06/2022 - 10% bare ground

Review completed 09/08/2022 - 10% bare ground

Offset area	Sheep in	No.	Sheep Out
Rosenthal	13th June 2022	A Flock 1342	14th June 2022
	15th June 2022	B Flock 110	15th August 2022
	19th August 2022	Offsets 427	29th August 2022
	2nd October 2022	Maiden Singles 302	10th October 2022
	5th December 2022	B Flock 51 A Flock 2282	12th December 2022

Achieving adequate weed control via grazing was extremely difficult this year. Sheep were required to be off the site during wet periods which is when grazing was most required. We are going to change the grazing regime next year to continue grazing through the wet periods and reduce the weed numbers. Grazing has been relatively ineffectual through most of Spring,

This grazing did prevent a lot of seeding from the natives, however that is the trade off when trying to undertake Biomass control in a wet year.



ph. (03) 52813250

e. offsets@warrambeen.com

Weed Cover / Control:

Phil Spark and four staff, were engaged to grid spray paddock




- Fluroproponate, Round Up, Amine, Galon and colour dye.
 - Spot spraying occurred 14/07/22, 19/08/22 and 29/11/22
 - Phalaris along creek bed has reduced in numbers, good progress noted.
 - Excellent spear thistle control.
 - Strong weed control efforts needed around the windmill, phalaris, variegated thistle and serrated tussock treated.
 - Chemicals attached see Appendix 2
 - Photos of Weed Control see Appendix 3
- Weed cover is higher than desired
 - Controlling variegated thistle and phalaris in a wet year is extremely difficult
 - Fire will be employed, provided the seasons cooperate, to get a better weed control outcome.
 - If the season allows the offset will be grazed much more heavily than the last two years.

Fox and Rabbit Control:

Fox and Rabbit numbers are continually being monitored on regular landowner drive arounds and also any weed control activities we undertake. When sightings or scratchings are observed a shoot is organised by the landowner by licensed shooters.

Date	Activity	Observation	Action Required
28/02/22	Landowner and offsets team drive around	No scratchings or sightings of pest animals	Nil
07/06/22	Landowner and offsets team drive around	No scratchings or sightings of pest animals	Nil
09/08/22	Landowner and offsets team drive around	No scratchings or sightings of pest animals	Nil
31/08/22	Weed Control Team	Rabbit warren	Warren marked and



		<p>found</p> 	<p>collapsed, multiple exits found</p> 
21/12/22	Weed Control Team	<p>Evidence of Kangaroos on the offset</p> 	Monitor

Fencing work

Fencing undergoes regular checks and maintenance as per the Farm program, all are in good condition and stock proof. However flooding during late 2022 saw many fences within the farm be damaged.



Fencing has been repaired to make it workable but further fencing repairs are required. Fencers are extremely hard to find at the moment.

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Management Plan 2023

Overall we are happy with the progress of the offset and the controllable elements. We will implement the same plan again this year - particularly in relation to low impact grazing through winter.

Continue the same 3 x pass weed control program. Also continue the same shooting program.

This summer has shown an increase in Bathurst Burr and thistles along the creek and in last year's sprayed areas. We are spraying these for broadleaf as recommended and will also two down some seed collected on the offset for the purpose of repopulating the site.

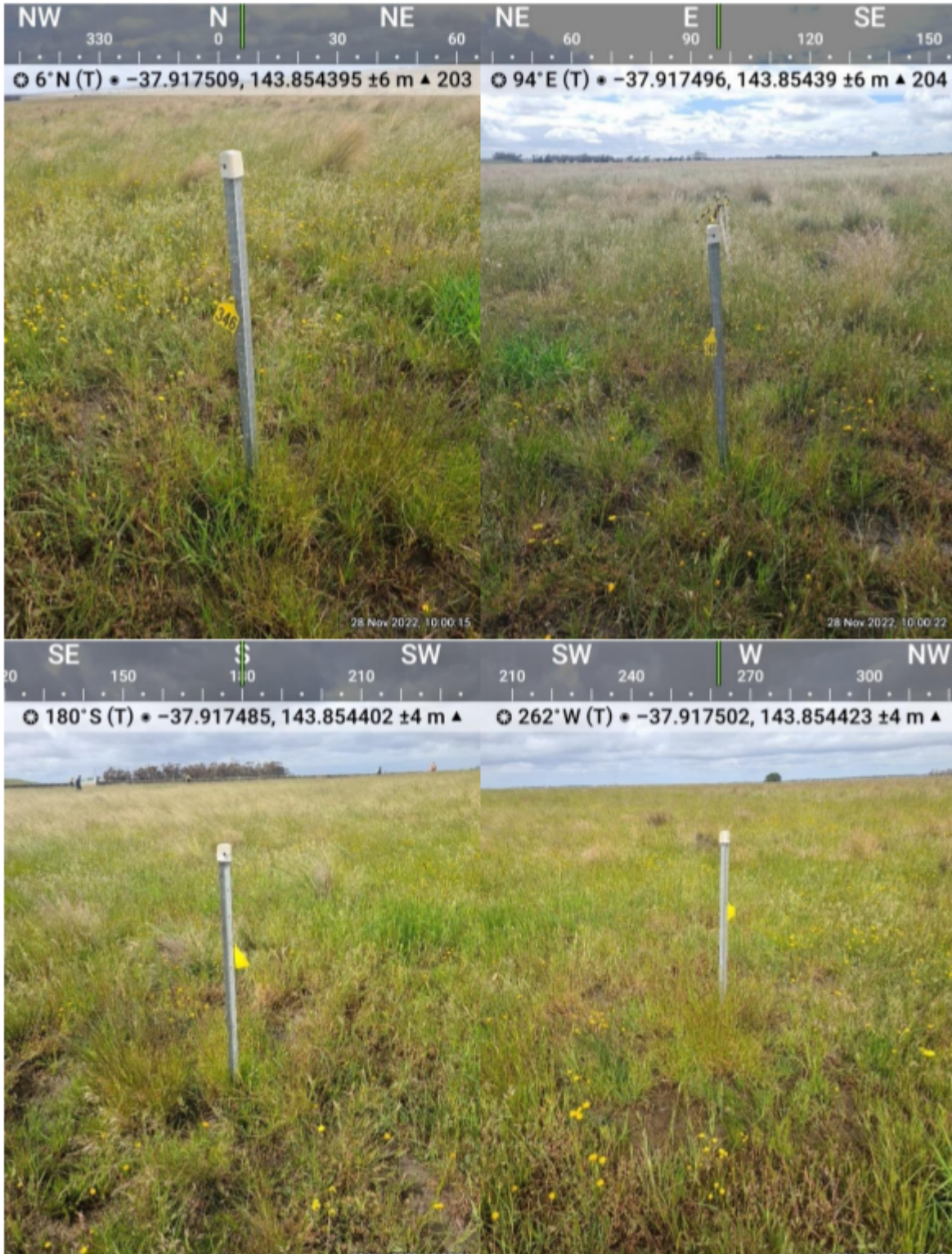
If wet, lightly graze in winter and increase the intensity of grazing through Spring. If it is wet again, consider locking up a weedy area and undertaking ecological burns as per recommendations from Austral. As discussed in previous years we will aim to graze the offset much harder in Spring but this has been our intention for the last 3 years and has been difficult to achieve. Our main strategy is to simply hope that this once in a generation flood and ultra waterlogged soils do not happen again next season and we can graze the offsets harder for longer without causing such significant damage.

Going forward we aim to continue to reduce the high threat weeds and then, with a better season, graze the Offsets harder than we would have normally to reduce the biomass.



Attachments

Photographs –Taken 28th November 2022

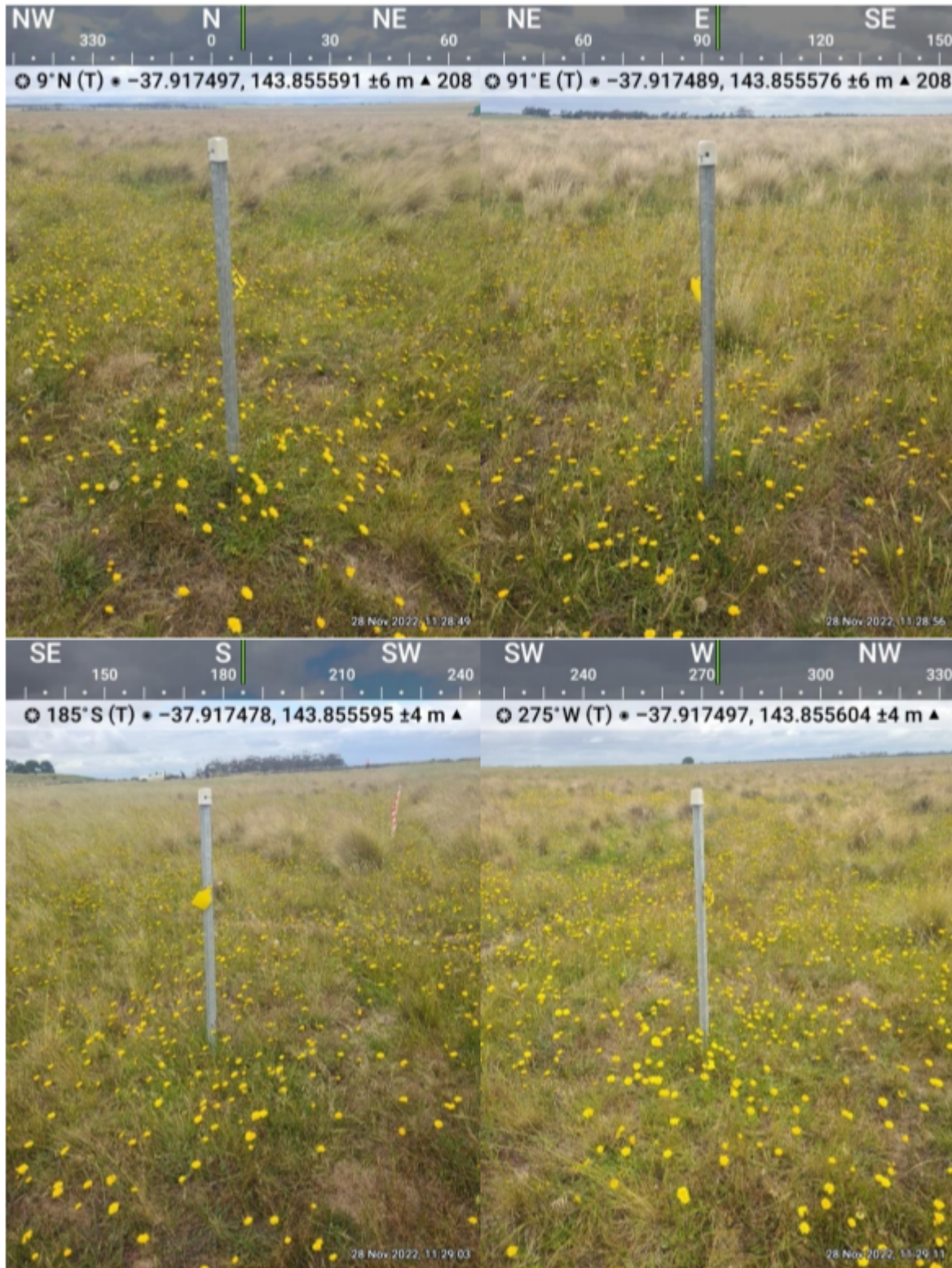


PP 346



ph. (03) 52813250

e. offsets@warrambeen.com



PP347



ph. (03) 52813250

e. offsets@warrambeen.com

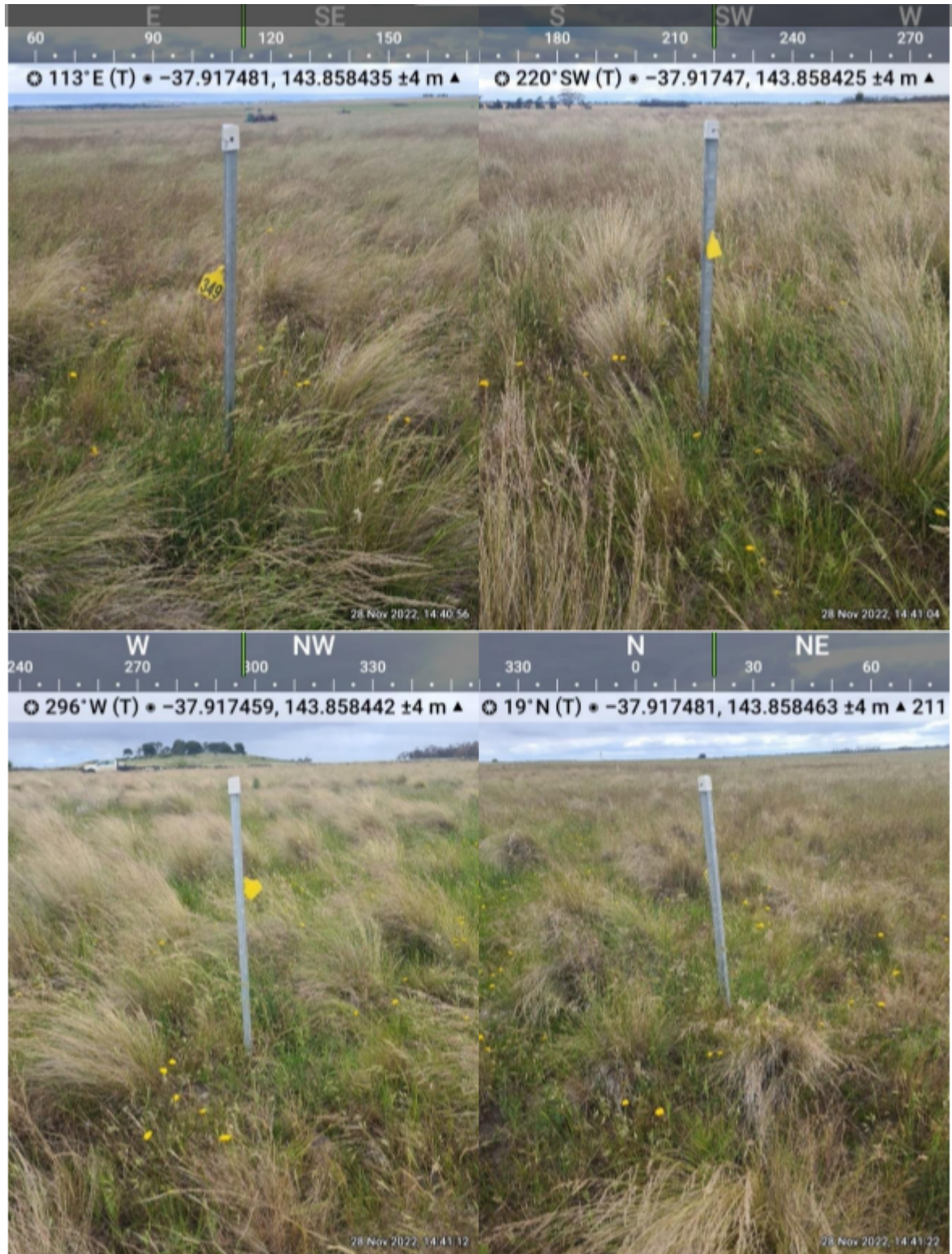


PP348

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



PP349



Appendix 1 - Management Action Tables

Year	Action	Management action	Responsible authority / personnel	Timing of action	Date completed
8	8.1	Conduct weed control	Landowner/Bushland Management Contractor	Species dependent	14/07, 19/08 and 29/11/22
8	8.2	Monitor populations of pest animals and conduct control works if required	Landowner/Pest Animal Contractor	After peak breeding season - late summer/early autumn	28/02, 07/06, 09/08, 31/08 and 21/12/223
8	8.3	Conduct monitoring for Golden Sun Moth	Suitably qualified ecological specialist	Eight years after commencement of OMP	Postponed to next year due to missed work early days.
8	8.4	Maintain fences	Landowner/Fencing Contractor	As required	Yes
8	8.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/ fuel reduction plan if appropriate	Landowner/Bushland Management Contractor/CFA	Summer/Autumn	Yes

Monitoring Next year.

This offset will reach year 9 and Austral will be engaged to undertake GSM monitoring and vegetation as per the OMP.

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

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



Appendix 2 – Chemical Drum





Appendix 3 – Weed Control Evidence



Evidence of thistle kills within the offset



Evidence of vehicles being washed between paddocks

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Wee Control on surrounding boundaries to help with seed spreading



A reduction in Phalaris being seen



Spot Spraying

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

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



Targeting Flat weed



Small variegated thistle over rock face



Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Blue Devil natives



Fantastic variegated kill



Appendix 4 – Offset Reviews

Review of Offsets

Offset Site: Rosenthal Offset Year: _____

Date of review: 28/02/2022

Name (Landowner Authorised Delegate): Jamie

Fencing: Good/ Damaged?

Good condition, stock proof, checked

Weed coverage observations:



Evidence of sprayed serrated tussock



Biomass observations:



Image shows very pleasing grazing results, Kangaroo grass that has been grazed heavily with plenty of space between plants, some thistle returning after the two pass approach but very happy with numbers.

We're extremely happy with the state of the offset given the earlier concerns. Dan from Trec accompanied us on this visit and thought the site looked excellent. We took a long walk and noted some of the areas heavier in fog grass are now bare - because it's all disappeared. These areas will still be an issue next year but there is lots of GSM habitat remaining.

Discussion around burning the heavier weeded areas in August to kill emerging weeds.



Average 15 percent bare ground

Pest sighted? Yes/No If yes state what _____
Sheep currently in offset? Yes/No

Overall state of offset:

Thistle control did see a new generation pop up after the 3rd run in december. It was decided there would be little gain from hitting these now but another run in winter should continue the reduced numbers. We are very happy with the state of the offset given the extremely wet year.

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Any other notes/comments/difficulties experienced?

Kangaroos sighted in offset



The major difficulty is one around pugging, this has been discussed previously. In other documentation, but under the adaptive management clause we will be accepting higher levels of pugging than the OMP recommends to ensure we're able to keep on top of the biomass. In these wet years it can be very difficult to achieve the necessary reduction if the grass becomes too long. Sheep don't like grazing very long grass.

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Area where some of the annual weeds have become ground cover. Which will dissipate over winter. We will graze as hard as possible this year.

Date last review was conducted: 25/11/21

Signature: Nicole Wilks on behalf of James Taylor

Date: 01/03/22

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Review of Offsets

Offset Site: Rosenthal Offset Year: 8

Date of review: 07/06/2022

Name (Landowner Authorised Delegate): Jamie, Phil and Nicole

Fencing: Good/ Damaged?

Good condition, stock proof, checked

Weed coverage observations:



Small patch of fog grass but grazing appears to be controlling while the plant is still young.

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

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



Less flatweed in rocky areas



spraying



Spear thistles require spot

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Phalaris patch on creek flat, best suited to burning



Flatweed in blue star requires another graze.

Biomass observations:

90 percent biomass but slow growing.

Pest sighted?

Yes If yes state what _____

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Kangaroo prints sighted

Sheep currently in offset? Yes/No|

Overall state of offset:

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Offset looks excellent



Any other notes/comments/difficulties experienced?

Date last review was conducted: 28/02/22

Signature: Nicole Wilks

Date: 14/06/22



Review of Offsets

Offset Site: Rosenthal Offset Year: 8

Date of review: August/September 2022

Name (Landowner Authorised Delegate): Jamie, Phil, Dan (Trec) and Nicole

Fencing: Good/ Damaged?

Good condition, stock proof, checked

Weed coverage observations:

09/08/22 - Thistle spot spray looks successful, higher rate applied around gate has led to a fast death rate. Observe other plants in the paddock. Also looks like flatweed areas spray not dying.

Biomass observations:

90% biomass

Pest sighted? Yes If yes state what _____

Sheep currently in offset? Yes/No

Overall state of offset:

Any other notes/comments/difficulties experienced?

Date last review was conducted: 07/06/2022

Signature: Nicole Wilks | **Date:** 14/06/22

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



Review of Offsets

Offset Site: Rosenthal Offset Year: 8

Date of review: 29th November 2022

Name (Landowner Authorised Delegate): Jamie, Phil

Fencing: **Good/ Damaged?**

Good condition, stock proof, checked

Weed coverage observations:

No variegated thistles sighted!!!!

Good phalaris levels

Bearded oats are present and need grazing.



Picture shows great winter kill of Phalaris along creek bed

Biomass observations:

Some of the offset have very thick patches (Approx 40% of the paddock), other areas look great.

85% biomass over the whole paddock.



Pest sighted? No If yes state what _____

Sheep currently in offset? Yes/No

Overall state of offset:

Warrambeen Offset Management
1372 Rokewood Shelford Rd
Shelford 3329

ph. (03) 52813250

e. offsets@warrambeen.com



High biomass but lots of natives present big blue devil plants spotted and other natives.



Any other notes/comments/difficulties experienced?

Date last review was conducted: _09/08/22_

Signature: ____Nicole Wilks____

Date: __01/12/22__