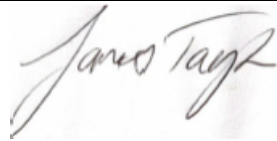


Warrambeen Offset Management
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Landowner of offset site	Ian, Trish and James Taylor
Location and address of offset site	“860 Paddock” Warrambeen Pty Ltd, Rokewood – Shelford Rd, Shelford.
Interested Party	Dacland Stage 1 – Year 6 Dacland Stage 2 – Year 5 Dacland Stage 3 – Year 4
Responsible Authority	Golden Plains Shire, DoE and DELWP
Type of Offset	Vegetation
Size of Offset	6.58 Ha
Signature	
Date	05/04/2022

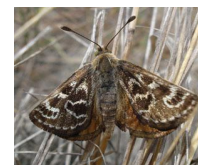
Information to be included:

- 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;
- Fencing work;
- Success of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing, etc.)
- Include any corrective actions and contingency measures where monitoring indicates that there has been a degradation in the native vegetation and Golden Sun Moth population and habitat; and,
- Provide any photographs showing evidence of works.



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Summary of Independent Monitoring Report

(Excerpt from Nature Advisory Report December 2021 Report No. 11212 (12.0))

“Discussions with the landholder found that during the past year of management for the offset site the site was too wet to graze effectively without damaging the native vegetation. It is understood that grazing was limited to the times below due to the high rainfall that occurred during the year and to prevent pugging of the site.

- 14 - 15 April 2021
- 18 - 25 May 2021
- 2 - 8 June 2021
- 28 August – 30 September 2021”

“Targeted surveys for threatened species were not included in OMP. Nonetheless, two state-listed threatened flora species have previously been incidentally encountered and recorded during offset site monitoring. One Small Milkwort was recorded in Stage 1 in February 2019, and two were recorded in Stage 1 during the most recent survey. Numerous Small Scurf-pea have been recorded throughout the offset site since 2017, forming large matts in association with rock outcropping. Small Scurf Pea was recorded in Stage 3 during the most recent survey. Small Milkwort is listed as threatened under the FFG Act, while Small Scurf-pea is listed as threatened under the FFG Act.”

Overall the landowners are happy with the offset and the diversity of natives found within the offset.

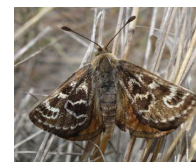
Monitoring results for vegetation/flora species

(Excerpt from Nature Advisory Report December 2021 Report No. 11212 (12.0))

The habitat hectare assessment results for this habitat zone are provided below in Table 4. More detailed habitat scoring results are presented in Appendix 2. The habitat scores for the current assessment (52 for Stage 1, 55 for Stage 2 and 44 for Stage 3) were slightly higher than the scores obtained in October 2020 (50 for Stages 1 and 2 and 43 for Stage 3).

Table 4: Summary of habitat hectare assessment results

Offset Zone	EVC	Area (ha)	Habitat Score (out of 100)
Stage 1	Heavier-soils Plains Grassland (EVC 132_61)	4.9	52
Stage 2	Heavier-soils Plains Grassland (EVC 132_61)	11.6	55
Stage 3	Heavier-soils Plains Grassland (EVC 132_61)	13.5	44



See below for the pest plant species recorded on-site at the time of the survey.

Common Name	Scientific name	Weed Category	Control under offset plan - Ensure cover does not increase beyond current level	Stage 1 (YR 1) - 2016	Stage 1 (YR 2) & Stage 2 (YR 1) - 2017	Stage 1 (YR 3), Stage 2 (YR 2) & Stage 3 (YR 1) - Feb 2019	Stage 2 (YR 3) - Nov 2019	Stage 3 (YR 2) - Nov 2019	Stage 1 (YR 5) - Oct 2020	Stage 2 (YR 4) - Oct 2020	Stage 3 (YR 3) - Oct 2020	Stage 1 (YR 6) - Dec 2021	Stage 2 (YR 5) - Dec 2021	Stage 3 (YR 4) - Dec 2021
Barley Grass	<i>Hordeum vulgare</i>	Low-threat	X	-	<1%	<1%	-	-	1%	-	-	-	-	<1%
Briar Rose	<i>Rosa rubiginosa</i>	High-threat woody	X	-	-	1%	<1%	-	<1%	<1%	<1%	<1%	-	<1%
Brown-Top Bent	<i>Agrostis capillaris</i>	Low-threat	X	-	-	<1%	-	-	-	-	-	-	-	-
Buck's-horn Plantain	<i>Plantago coronopus</i>	Low-threat	X	<1%	<1%	<1%	<1%	-	<1%	-	-	<1%	-	-
Capeweed	<i>Arctotheca calendula</i>	Low-threat	X	<1%	<1%	<1%	<1%	<1%	1%	<1%	<1%	-	-	<1%
Clover	<i>Trifolium spp.</i>	Low-threat	X	15%	2%	2%	2%	2%	<1%	<1%	<1%	<1%	<1%	<1%
Cocksfoot	<i>Dactylis glomerata</i>	Low-threat	X	-	-	-	-	-	<1%	-	-	-	-	-
Flatweed	<i>Hypochaeris radicata</i>	High-threat	X	1%	1%	1%	1%	1%	1%	4%	10%	2%	5%	15%
Hair Grass	<i>Aira sp.</i>	Low-threat	X	1%	<1%	<1%	<1%	<1%	-	-	-	<1%	<1%	<1%
Large Quaking-grass	<i>Briza maxima</i>	High-threat	X	-	<1%	1%	3%	3%	-	-	-	<1%	<1%	<1%
Lesser Hawkbit	<i>Leontodon saxatilis</i>	Low-threat	X	-	-	<1%	-	-	-	-	<1%	-	-	-
Narrow-leaved Clover	<i>Trifolium angustifolium var. angustifolium</i>	Low-threat	X	<1%	<1%	<1%	<1%	<1%	<1%	-	<1%	<1%	-	<1%
Oat	<i>Avena spp.</i>	High-threat	X	4%	20%	10%	12%	15%	2%	8%	10%	1%	<1%	<1%
Onion Grass	<i>Romulea rosea</i>	High-threat	X	-	<1%	<1%	2%	2%	3%	2%	<1%	<1%	<1%	<1%
Prickly Lettuce	<i>Lactuca serriola</i>	Low-threat	X	-	-	<1%	-	-	-	-	-	-	-	-
Rough Dog's-tail	<i>Cynosurus echinatus</i>	Low-threat	X	<1%	<1%	<1%	<1%	<1%	-	-	-	<1%	<1%	<1%
Rough Sow-thistle	<i>Sonchus asper s.l.</i>	Low-threat	X	<1%	<1%	<1%	<1%	-	<1%	<1%	-	-	<1%	<1%
Saffron Thistle	<i>Carthamus lanatus</i>	Low-threat	X	<1%	<1%	<1%	<1%	<1%	-	-	-	-	-	-
Serrated Tussock	<i>Nassella trichotoma</i>	High-threat	X	-	-	-	<1%	<1%	-	-	-	-	-	-
Sheep Sorrel	<i>Acetosella vulgaris</i>	Low-threat	X	-	-	-	-	-	<1%	-	-	<1%	-	-
Soft Brome	<i>Bromus hordeaceus</i>	High-threat	X	3%	<1%	<1%	3%	4%	<1%	-	-	<1%	-	<1%
Spear Thistle	<i>Cirsium vulgare</i>	High-threat	X	<1%	<1%	1%	3%	3%	1%	1%	5%	<1%	<1%	-
Squirrel-tail Fescue	<i>Vulpia bromoides</i>	High-threat	X	<1%	5%	5%	6%	7%	-	<1%	-	<1%	<1%	<1%
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>	Low-threat	X	-	<1%	<1%	-	-	<1%	-	1%	-	<1%	-
Toowoomba Canary-grass	<i>Phalaris aquatica</i>	High-threat	X	-	<1%	<1%	2%	1%	<1%	-	-	1%	5%	7%
Wimmera Rye-grass	<i>Lolium rigidum</i>	High-threat	X	1%	1%	1%	2%	1%	2%	2%	1%	1%	1%	1%
Wood-sorrel	<i>Oxalis sp.</i>	Low-threat	X	<1%	<1%	<1%	-	-	-	-	-	-	-	-
Yorkshire Fog	<i>Holcus lanatus</i>	High-threat	X	1%	5%	5%	5%	3%	1%	1%	2%	2%	10%	15%
Small Quaking-grass	<i>Briza minor</i>	Low-threat	X	-	-	-	-	-	-	-	-	<1%	<1%	<1%

Bold % cover is where the cover of weed species has increased since the previous year of monitoring.

(Table from Nature Advisory Report December 2021 Report No. 11212 (12.0))

Given the increase in some pest plant species the landowners and weed management team are looking into the recommendations supplied by Nature Advisory to ensure targets are lowered back to acceptable levels.

Successful management tools

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

(Excerpt from Nature Advisory Report December 2021 Report No. 11212 (12.0))

“Evidence of spot spraying of Spear Thistle was observed, although follow up control is required as many recruits were also present (Photo 3). Sweet Briar had also been controlled using the cut and paint method, with only two juvenile plants being found in Stage 1 and 3.”

There is no doubt the 3 x pass weed control methodology has been very successful on spear thistle. Our war against serrated Tussock control is slower, with a large amount reappearing on the site again this year. We will continue the work over the 3 x passes and hopefully we will see a reduction over time as we have been working on this for a long time.

Dacland 1,2,3 combined	2020	2021
Spear Thistles	25770	9993



Photos

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

Fencing work

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

Weed and pest animal control work

(Excerpt from Nature Advisory Report December 2020 Report No. 11212 (11.0))

Biomass Control:

Biomass levels are regularly monitored by landowners and staff throughout the year. Biomass control has been very difficult again this year on the Dacland offset due to such a wet year, the ground was waterlogged in November which hindered 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.

In spring the Biomass levels are higher than required at nearly 86%.

Summer review 24/02/2021 - 30% bare ground

Autumn review 27/04/2021 - 40% bare ground

Winter review 31/08/2021 - 20% bare ground

Stock Movements

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. This offset gets so wet in winter it becomes very hard to graze under the current restrictions in the OMP. Grazing has been relatively ineffectual this year, given the high biomass levels. We found some opportunity May, June and August but later Spring grazing was difficult to achieve - this was when Biomass got to some of its highest levels.

Offset area	Sheep in	No.	Sheep Out
Dacland	14 April 2021	75 Rams	15 April 2021



	18 May 2021	1949 B Flock	25 May 2021
	2 June 2021	1692 O flock	8 June 2021
	28 August 2021	499 B Flock 1277 Offsets 49 Maidens	30 September 2021

Weed Cover / Control:

Phil Spark and his team were engaged to grid spray paddock. The Autumn weed control event consisted of 5 staff, the Spring event was 6 staff. Plus a serrated tussock sweep was conducted in August by Jamie (Landowner) in the difficult areas.

- Fluroproponate, Round Up, Amine, Galon and colour dye.
- Blackberry's have been spotted and soaked with Amine on the 1/06/21, 2/06/21 and 15/7/21
- Thistle and serrated tussock numbers are dropping each year
- Saffron Thistle spotted in low numbers and spot sprayed.
- Chemical drum pictures attached see Appendix 3.
- 3 x phases of spot spraying for phalaris, thistle and serrated tussock completed.
- Photos of Weed Control see Appendix 1

Phalaris and fog grass have exploded over the site, due to autumn seeding. This has been very difficult to control as there are so many small plants. Historically these would have been grazed at a low stocking rate which would have prevented establishment. Spear grass numbers are pleasing on the offset site this year.

Fox and Rabbit Control:

- An ongoing shooting programme, maintained as required with registered shooters.

Date	Activity	Observation	Action Required/Completed
24/02/21	Landowner monitoring	No scratchings or sightings of pest animals	Nil
27/04/21	Landowner monitoring	No scratchings or sightings of pest animals	Nil



1/06/21	Weed Control work	Rabbit warren identified	Collapsed and marked on map (See Appendix 5)
31/08/21	Landowner monitoring	Kangaroo tracks observed but no sightings	Nil
11/11/21	Weed control work, and pest monitoring	No sightings or evidence of any rabbits or foxes	Nil

Problems or issues experienced

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

This was another very difficult year. Sheep were moved on and off the paddock many times to avoid damage to the offset and grazing had to be delayed last minute due to rain. We were particularly concerned about the high levels of biomass. We found Spear thistle levels are especially high on the western side early in the year, this is as a result of late grazing in the previous year.

Sourcing staff was an issue early in the weed control season, however once staff were sourced they were trained up and set to work.

Lots of standing water in the Dacland offset prevented us from grazing as actively as we would have liked. These conditions also favoured the growth of fog grass, which is the primary issue we need to tackle next year.

Management Plan 2022

Grazing will occur according to the OMP and with the advice of the recommendations from Nature Advisory.

The current state of the offset has too much biomass. This is mirrored in our other offsets and is the experience of other landowners in the last 2x years. The existing OMP's with restrictions around pugging and grazing have created conditions that in wet years have made grazing difficult and favoured exotic species.

1. Some pugging is better than allowing seed set for weed species in Spring.
2. Spot spraying on Phalaris areas is difficult to get good kills when not grazing the areas in Spring.
3. Weed species are at higher levels than outlined in the OMP.

Wet seasons with limited grazing to prevent pugging favour phalaris and seeding. When the OMP was formed we were on the end of the millennium drought and most of the



After 3 weed passes this year we have found the phalaris very difficult to control with spot spraying especially in the kangaroo grass areas as it's interspersed amongst the natives. We have reduced the numbers of serrated tussock and spear thistle significantly.

Examining the history of the area we need to focus on reducing the phalaris using grazing - as evidence, we have other areas of native grassland that are set- stocked rather than pulse grazed and this year they have no phalaris issues and much less weed issues. Also, before the offset the areas were grazed permanently which kept our phalaris from the paddocks.

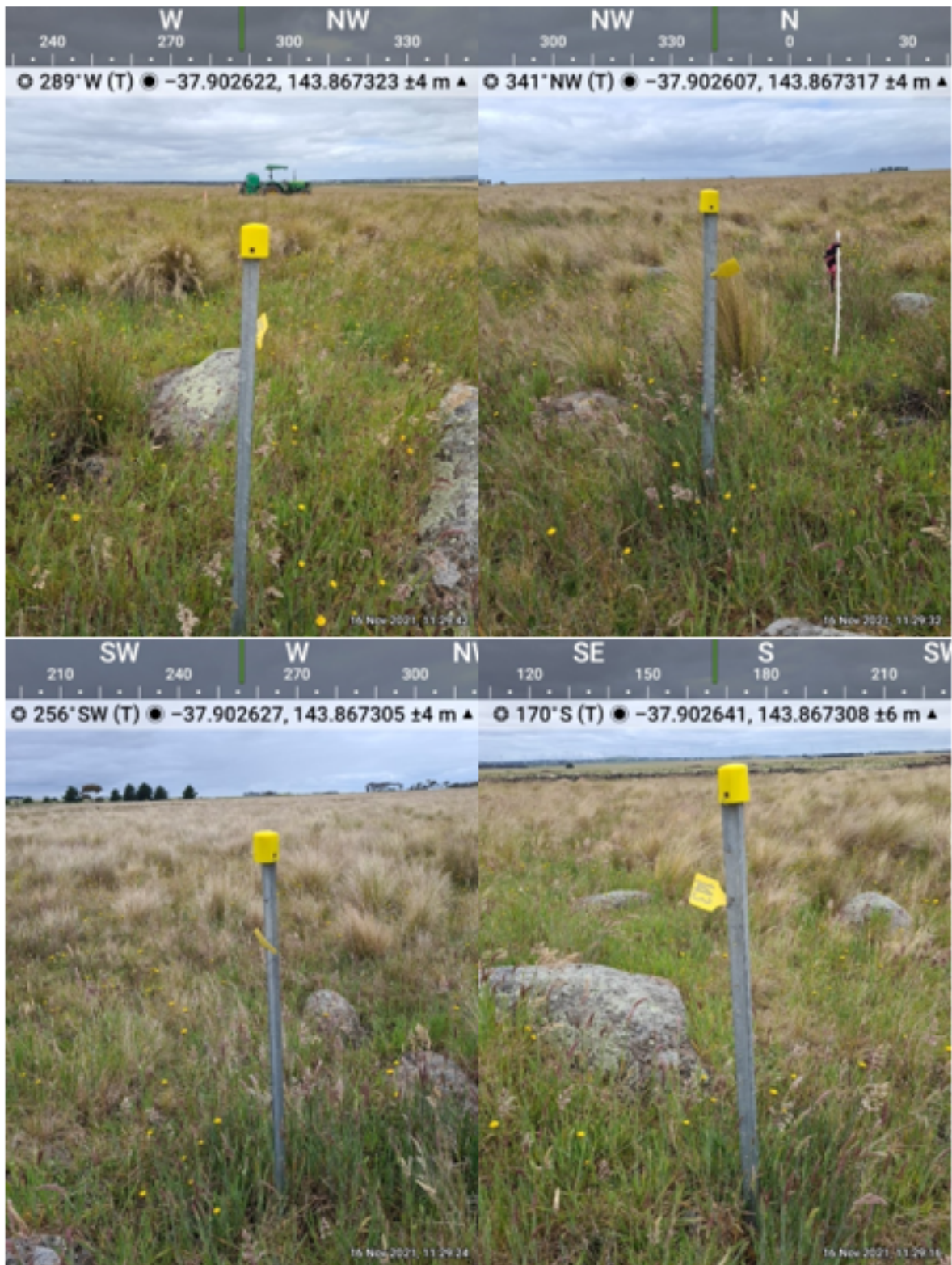
Should this year be another wet year and thus prevent grazing to occur as recommended, an August burn followed by a spraying event may occur to help combat biomass and weed growth.



Photographs –Taken November 16, 2021



PP 142



PP 143



PP144



PP 145



PP 361

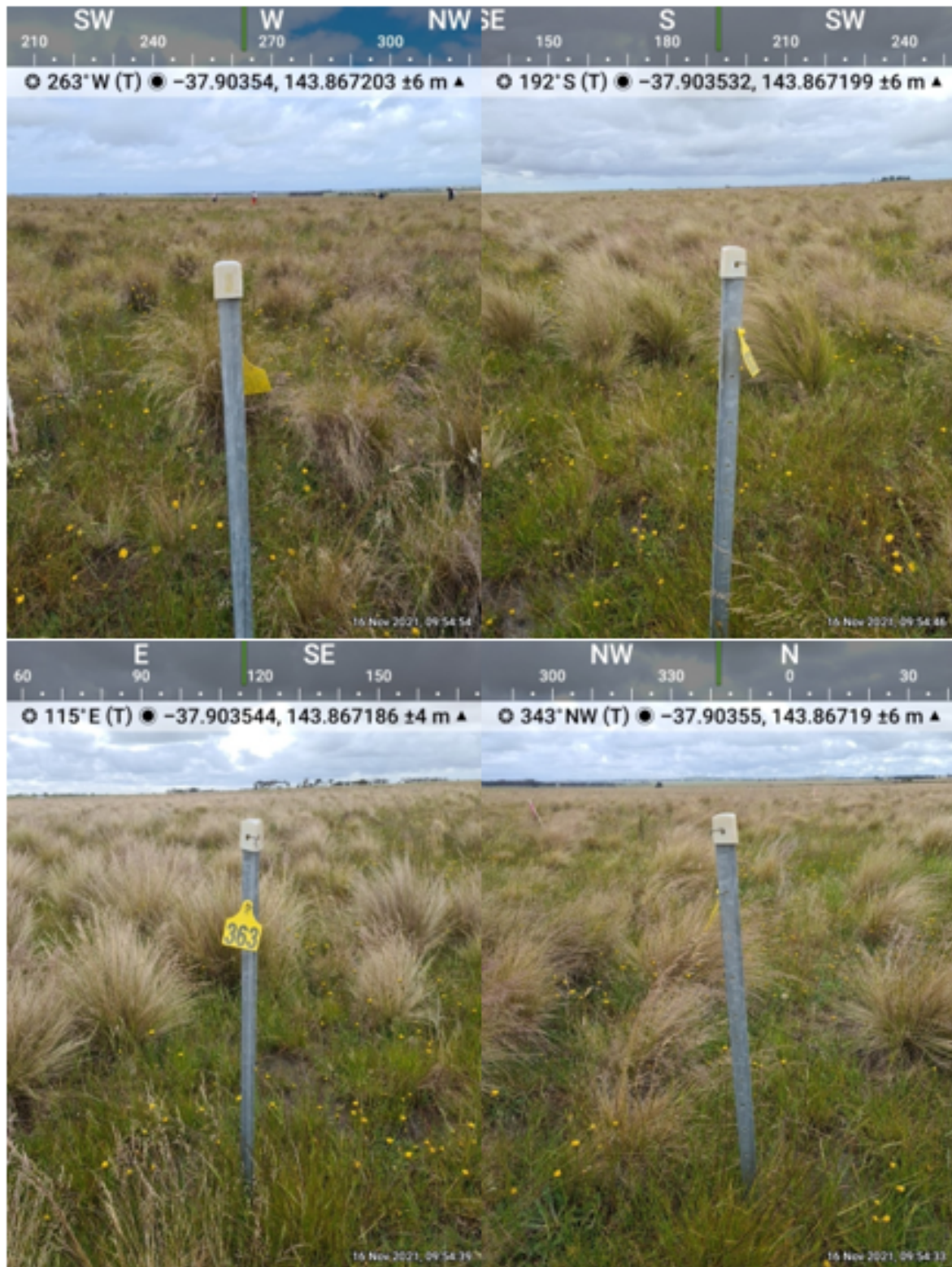


PP 362

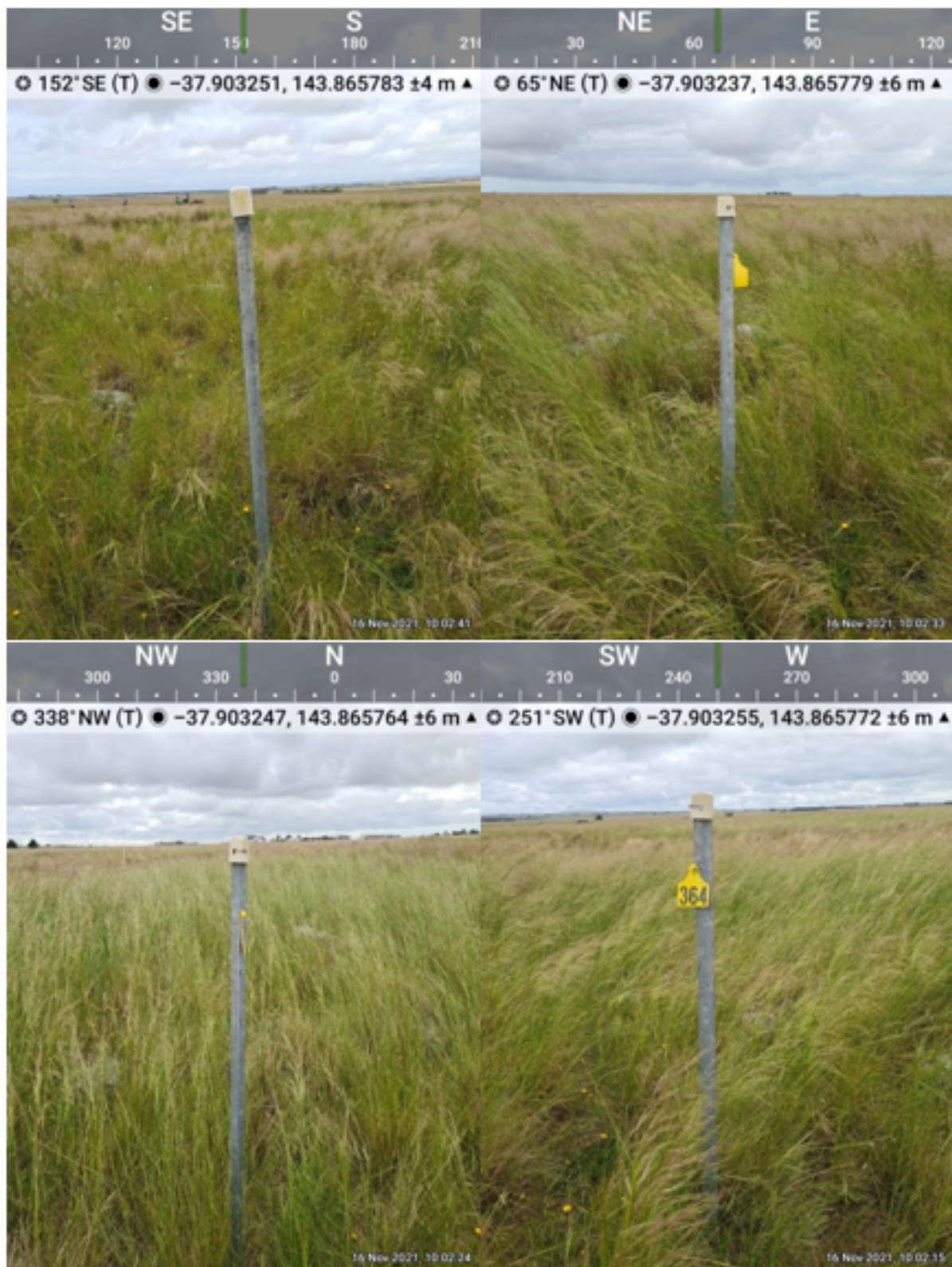
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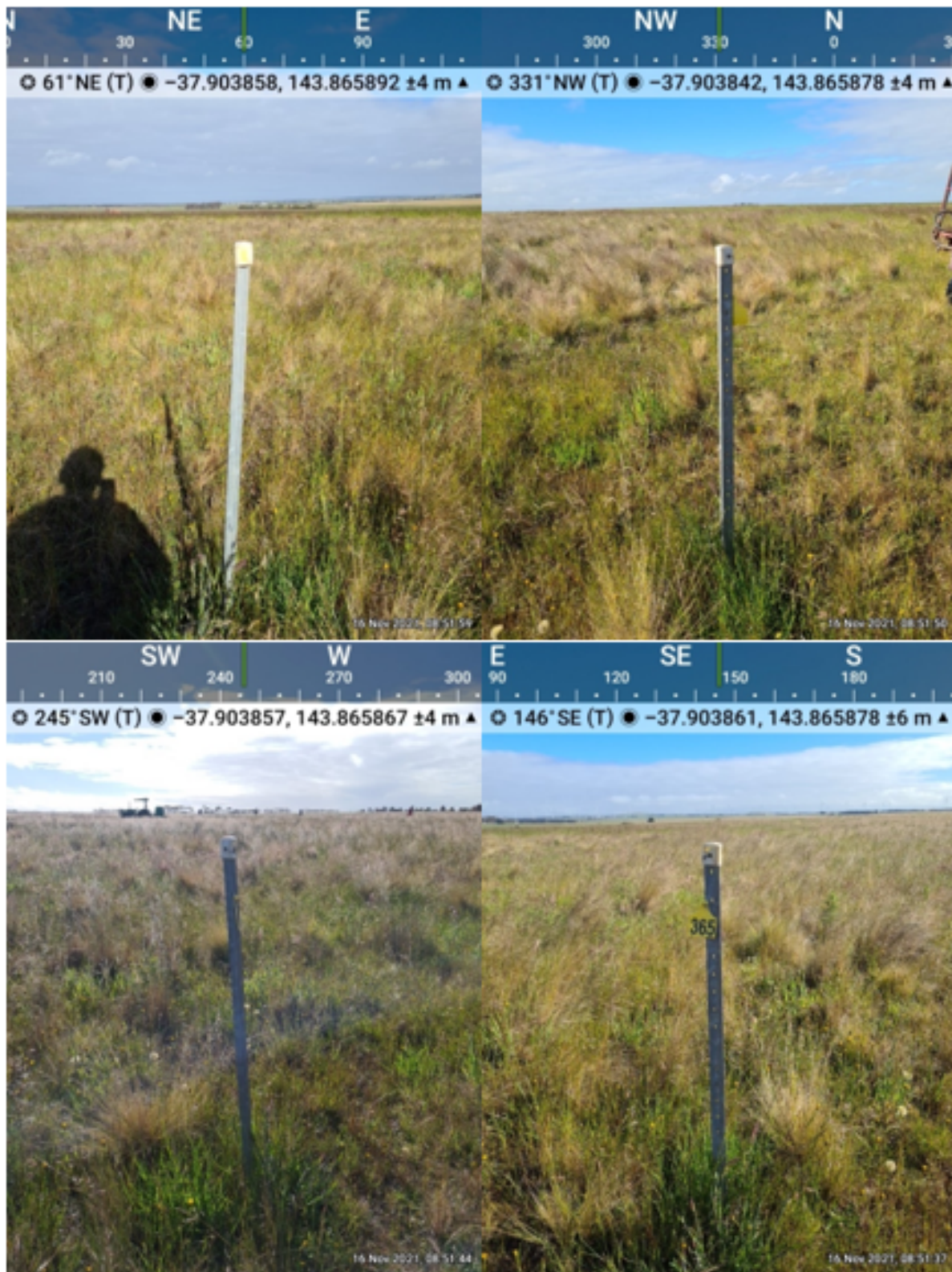
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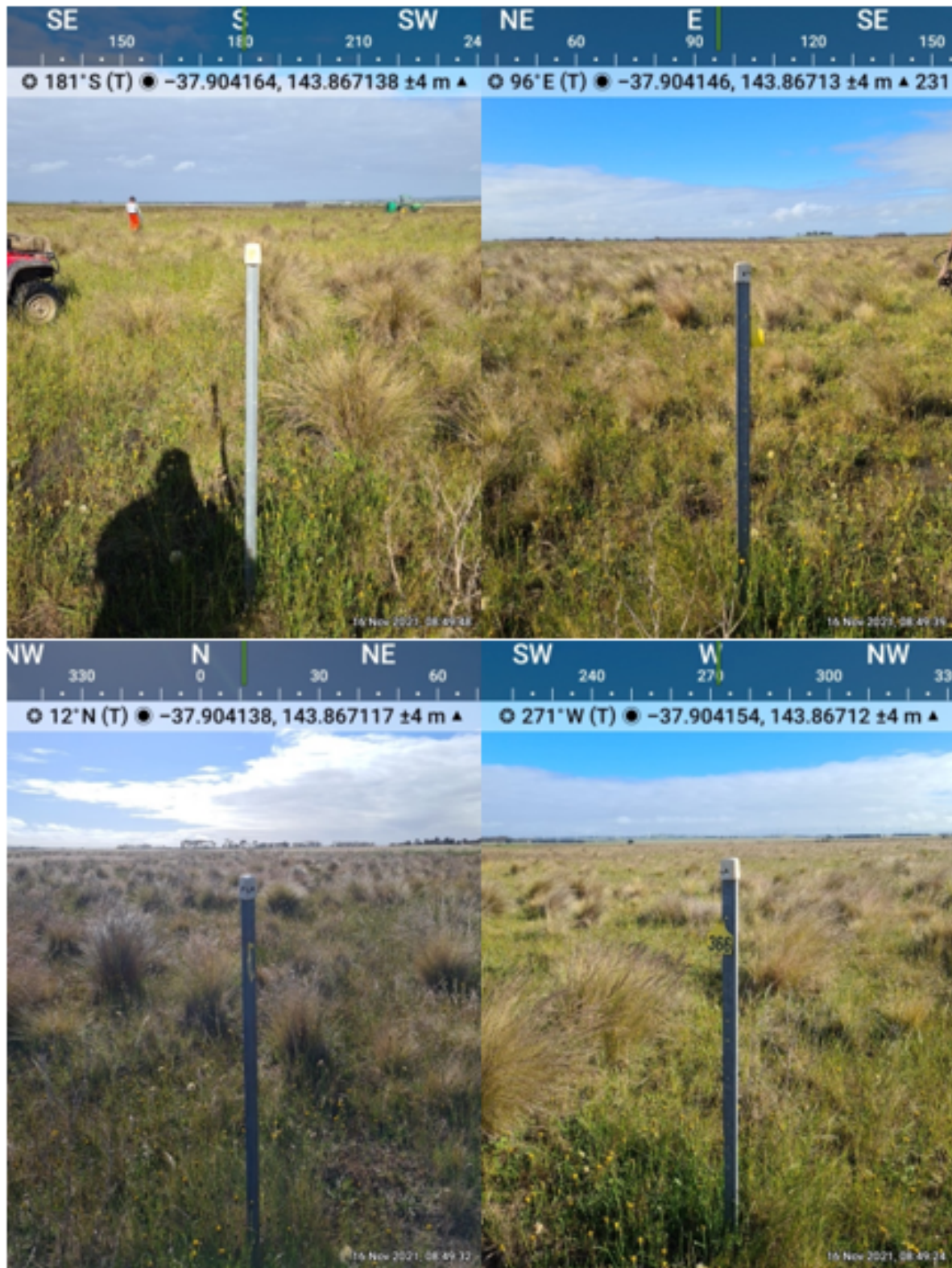
PP 363



PP 364



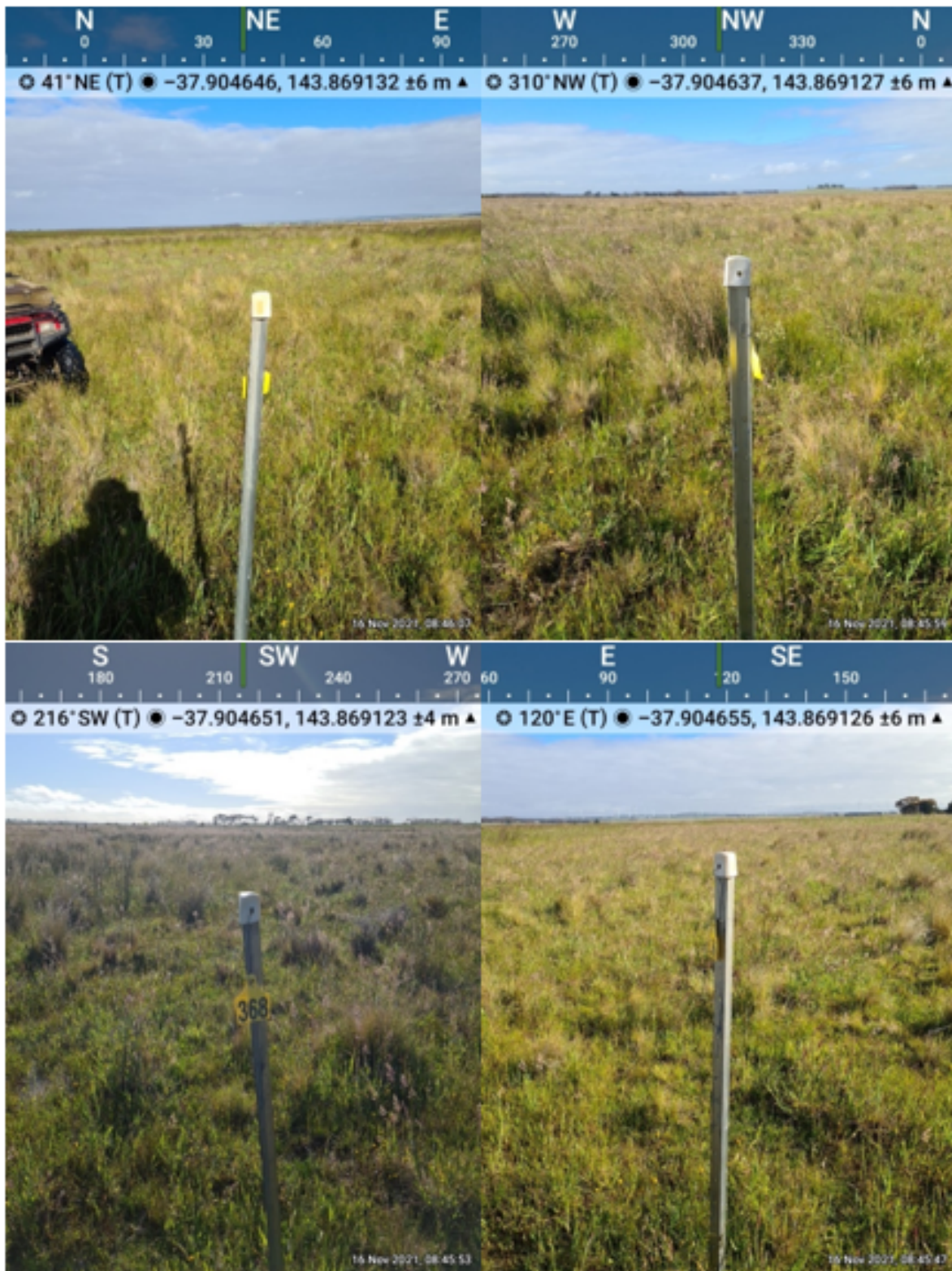
PP 365



PP 366



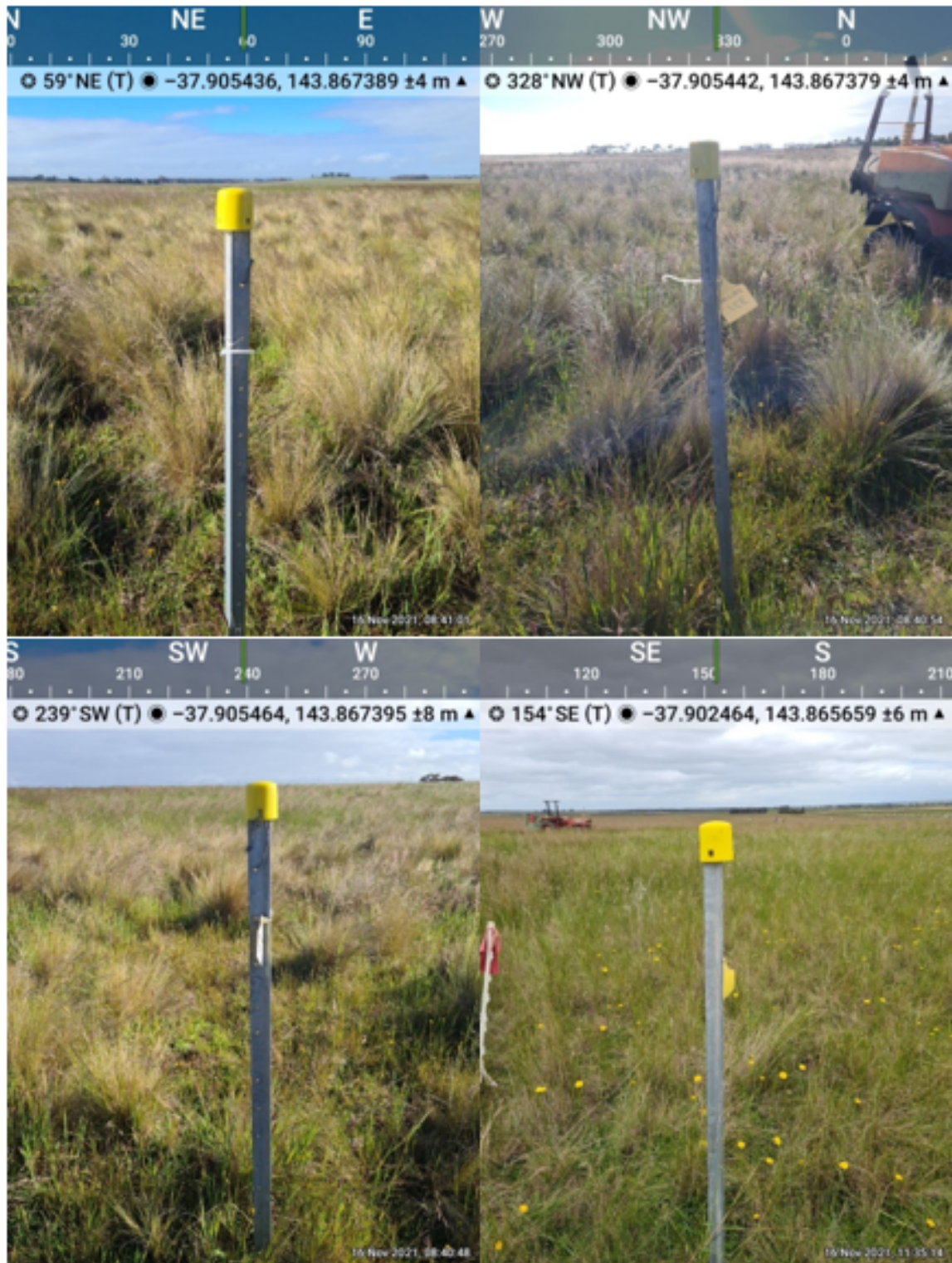
PP 367



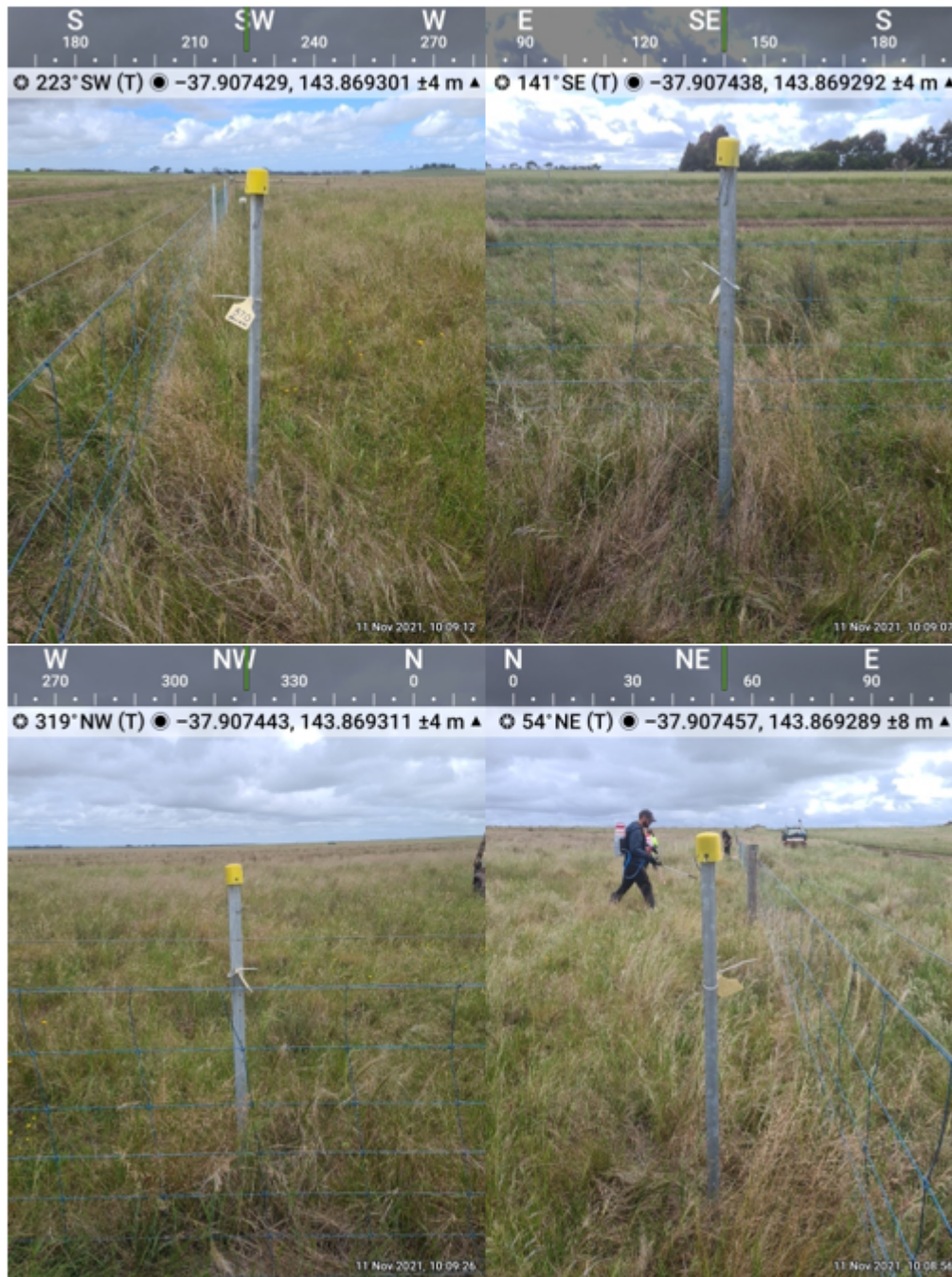
PP 368



Photo Point 369



PP 371



PP 370



PP 372



Appendix 1: Threatened species





Appendix 2: Management action tables

Management Action	Target to be achieved	Responsible person	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Rabbit Control to be carried out if required – Fumigate and collapse burrows where present or shooting	<5% survival of target; <2% death of non target species.	Warrambeen Gumley Land Trust	Throughout 2021, rabbits are monitored and shooting efforts undertaken as required			X		X	
Weed control: - Treat <i>high threat</i> woody weeds as per Table 11; - Treat other weeds species if required.	- Cover of each <i>high threat</i> woody weed species reduced to <1%; - Cover of each weed species maintained at year 1 level <i>High threat</i> weed cover benchmark* not exceeded; - Overall weed cover benchmark* not exceeded.	Warrambeen Gumley Land Trust	Weed control efforts happen throughout the year as required depending on the seasonal growth of the individual species. The spring weed pass happened on the 16 th November 2021			X	X	X	X
Monitoring: - Estimate overall weed cover and cover of each <i>high threat</i> woody weed species (refer to Table 11); - Take pictures at photo points; - Assess integrity of offset zone fencing; - Assess level of grazing pressure; - Monitor compliance with land-use commitments and other management commitments.	Monitoring results to be documented and retained for reporting purposes. Results should also inform management approaches and techniques.	Ecologist	Nature Advisory report 11212 (12.0) December 2021						
Fence maintenance to be carried out if required	Integrity of fencing maintained to exclude entry of threatening herbivores	Warrambeen Gumley Land Trust	As per farm schedule all fences are checked throughout the year and especially on the landowner quarterly drive arounds see attached reports.				X		X
Biomass Control: - Sheep to be moved onto site in mid summer and removed before autumn rains - Possibly subdivision of the site through electrical fencing to apply crash grazing for short periods and ensure no species are taken out selectively by sheep - Small areas (< 4 ha) could be burned in consultation with the ecologist	- No soil pitting cause by sheep. - Vegetation cover to remain >10cm high with no more than 30% bare ground.	Warrambeen Gumley Land Trust	This is constantly monitored and controlled by offset management team, this year has been tricky as it has been unseasonably wet. However, offset has been managed according to the OMP. See attached reports			X	X	X	X
Report to be prepared documenting management actions undertaken and monitoring results. Report structure and content to be prescribed by DoE and the Responsible Authority.	Report delivered to the Responsible Authority and DoE no later than three months after the due date.	Warrambeen Gumley Land Trust/ Ecologist		Feb 2022					X

* = The overall weed cover benchmark is an estimate of the overall weed cover at the commencement of the offset plan. This informs both contractors and auditors of the plan in ensuring that overall weed cover does not increase beyond that benchmark.

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Appendix 3 – Chemical drum photos





Appendix 4 - Evidence of works completed



Blackberry being cut and painted



Trough site being repaired



An old trough site about to be repaired



Site repaired and marked to be monitored



An abundance of spear grass



An advanced serrated tussock found and treated, onset of weeds were noticed earlier this year

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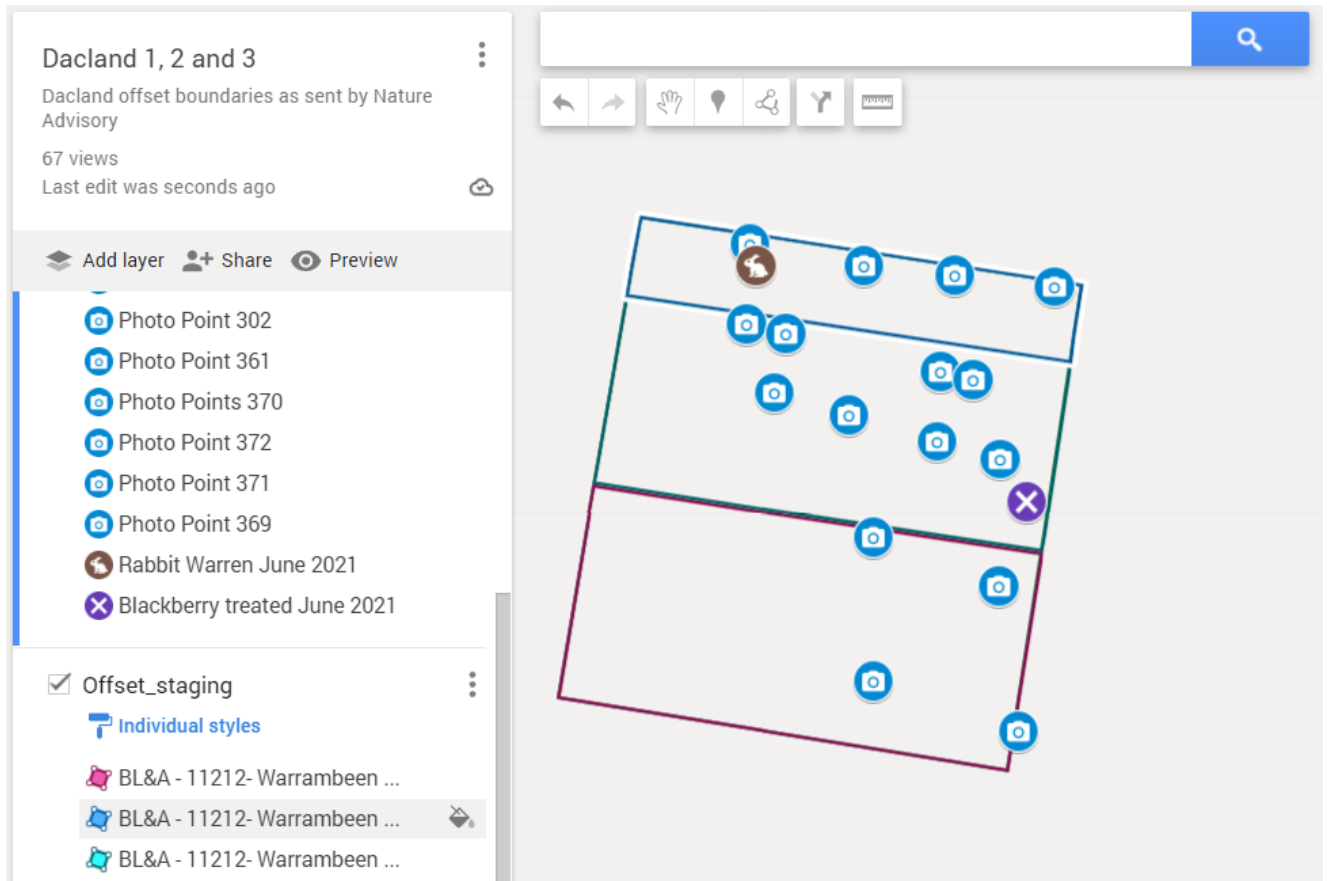
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An old bramble site being monitored found a new bramble shoot, treated and continue to monitor



Appendix 5 -Rabbit Warren Location marked on Map



Also NB Blackberry identified and treated, marked to watch and future reference.



Appendix 6 -Offset Reviews

Review of Offsets - Summer 2021

Offset Site: Dacland Offset Year: 2, 3, 4

Date of review: 24/02/2021

Name (Landowner Authorised Delegate): Jamie and Nicole

Position: Owner and offset officer

Fencing: Good/ Damaged?

Good condition, sheep proof

Weed coverage observations:

Spear thistle levels are especially high on the western side, this is as a result of late grazing.

Biomass observations:

Sheep have kept biomass to good levels with good bare ground level.

Bare ground 30% and Biomass 70%

Pest sighted? Yes/No If yes state what

Sheep currently in offset? Yes/No

Overall state of offset:

Good overall condition

Any other notes/comments/difficulties experienced?

Natives observed on offset

2 brambles sighted for immediate removal (in separate areas) visible from the south east corner near photopoint 370 on road.

Date last review was conducted: 03/11/2021

Signature: Nicole Wilks

Date: 25/02/2021



Review of Offsets - Autumn 2021

Offset Site: Dacland Offset Year: 3, 4, 5

Date of review: 27/04/2021

Name (Landowner Authorised Delegate): no Jamie, Phil and Nicole

Position: Owner and offset officers

Fencing: Good/ Damaged?

Good condition, sheep proof

Weed coverage observations:

Large spear thistle numbers, which was surprising given the amount of work done in December - second pass in Feb if summer rains occur again. We were unable to find staff to undertake this work at the time.

Timing of weed control is important, Dacland is always first on the list when training new staff. Maybe we need to look at alternating the starting point for new staff.

Serrated Tussock numbers are not really reducing.

3 x brambles in the corner still not removed, added to the to-do list near pp 370.

Large numbers of flatweed, grazing needed to help reduce but also investigate other methods of reduction.

Biomass observations:

Heavy grazing has kept the offset looking good.

Bare ground 20% and Biomass 80%

Pest sighted? Yes/No If yes state what _____

Sheep currently in offset? Yes/No

Overall state of offset:

Good overall condition _____

Any other notes/comments/difficulties experienced?

Great spear grass numbers

Wallaby and kangaroo grass appear to be healthy and thriving.

Temporary fence in offset needs to be removed.

Date last review was conducted: 24/02/2021

Signature: Nicole Wilks

Date: 27/04/2021



Review of Offsets - Winter 2021

Offset Site: Dacland Offset Year: 3, 4, 5

Date of review: 31/08/2021

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

Position: Owner and offset officers

Fencing: Good/ Damaged?
Good condition, sheep proof

Weed coverage observations:

Checked previous Blackberry site, 240D has knocked it and looks to have almost killed it but still a little life so Phil has to go back and hit again. Despite 2 thistle passes already small rosettes of thistles coming through again, pleasing we seem to be getting on top of them but still need to remain focused on reducing numbers further. Many dead thistles observed from last year. Lots of standing water in this offset. Fog grass present in these areas.



On reflection of results from last year it has been decided that no chipping of weeds will occur, only spraying. It is believed that this will be more effective.

Biomass observations:

60% Biomass 40% bare ground. Good grazing early in the season but it is too wet now.

Pest sighted? Yes/No If yes state what _____
Kangaroo tracks observed

Sheep currently in offset? Yes/No

Overall state of offset:

Good overall condition
Native flowers found, identified as Asperula. An abundance of this flower observed

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Also good amounts of blue devil and forbes

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Temporary fence has been removed

Any other notes/comments/difficulties experienced?

Wallaby and kangaroo grass appear to be healthy and thriving.

Date last review was conducted: _27/04/2021__

Signature: Nicole Wilks_____

Date: _31/08/2021

ph. (03) 52813250

e. offsets@warrambeen.com



Spring Review of Offsets

Offset Site: Dacland Offset Year: _____

Date of review: 25/11/2021

Name (Landowner Authorised Delegate): Jamie

Fencing: Good/ Damaged?

Good condition, stock proof, checked

Weed coverage observations:

Large numbers of wild oats, flat weed over the offset also observed phalaris on the stone wall of the offset.

Checked old bramble site and found a shoot appearing



Weed team have treated Nov 2021

Biomass observations:

Pleasing numbers of Speargrass ad wallaby grass

Estimated bare ground 15%

Crusty ground as it dried out has created more bare earth.



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

Overall state of offset:
Good numbers of numbers of natives present

Any other notes/comments/difficulties experienced?
No pest evidence observed

There is a large volume of biomass after such a wet winter. Ideally we would recommence grazing now that the area has dried out but this might impact on GSM numbers.

Wallaby grass and Kangaroo grass is a long way into seeding. Lots of spear grass present in Dacland.



Date last review was conducted: _31/08/2021_

Signature: ~~Nicole Wilks~~ on behalf of Jamie _____
30/11/2021

Date: