

Swift Parrot Offset Monitoring Year 2: Oct 19 – Oct 20

Old Glenorchy Road, Deep Lead



January 2021

**Swift Parrot Offset
Monitoring Year 2
Old Glenorchy Road, Deep Lead**

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Cover image: Deep Lead Offset Site, 2017

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1. Introduction

Practical Ecology Pty Ltd was commissioned by Deep Lead Property Pty Ltd to implement the Offset Management Plan (OMP) produced by Biosis Pty Ltd in 2017, to undertake monitoring and associated annual reporting for Swift Parrot Habitat Offsets located at Old Glenorchy Road, Deep Lead.

The offset was created as part of infrastructure works undertaken by VicRoads requiring removal of vegetation that was identified as foraging habitat of critically endangered Swift Parrot (EPBC 2016/7809). A report summarising annual monitoring and management works is required to be submitted to VicRoads, now recognised as Regional Roads Victoria, as directed by the OMP.

This report presents information relating to the management works and monitoring of the site for Year 2 of a 10-year management plan (Biosis, 2017).

1.1 Project Scope

The scope of works Practical Ecology was contracted to fulfil include annual monitoring and reporting, and ongoing works in relation to:

- fence condition
- weeds– woody and herbaceous
- pest animals
- tree and shrub recruitment and canopy condition

This monitoring is to support and inform adaptive management over time on the property and to implement the required management actions and land use commitments, as outlined in the OMP which are mandatory to satisfy the requirements of the *EPBC Act 1999* approval conditions, and the commitment to providing ongoing foraging habitat for Swift Parrot within the site. Management actions aim to protect existing large trees, and ensure that adequate cohorts of replacement trees are regenerating and growing effectively over time, sustaining Swift Parrot foraging resources.

1.2 Subject Site

This site is located within the Wimmera Bioregion, with vegetation types having strong associations with the Goldfields Bioregion. The Swift Parrot Offset Site lies within the larger Offset Property in Deep Lead owned by Deep Lead Property Pty Ltd. (Bush Broker Credit Site BB-3018). The property contains a mosaic of EVC 882_61 *Higher rainfall Shallow Sands Woodland* and EVC 283 *Plains sedgy Woodland*, dominated by Yellow Gum *Eucalyptus leucoxylon* and Grey Box *Eucalyptus microcarpa*. The understorey of the woodland has sparse shrub cover and a mosaic of indigenous ground storey, with natural litter dominated surface. Small areas of herbaceous weeds occur on site, mostly on the western boundary adjacent to Old Glenorchy Road.

2. Methods

The following methodology for monitoring and works has been implemented in response to directions stated in the Offset Management Plan (Biosis, 2017) for the Swift Parrot Offset Site at Deep Lead. Monitoring and management works are required to be completed annually.

2.1 Fencing

Fences are to be maintained and in working order and must remain so for the term of the plan– and in perpetuity – if required for the purposes of exclusion of stock, prevention of unauthorised access– particularly for firewood collection, minimising soil disturbance and compaction, and to reduce the spread of weeds and pathogens. The OMP states that any fencing in place must be in good condition according to the standards detailed in *BushBroker Information Sheet 12– Standards for Management – Fencing* (DSE 2012c).

Surveys of the property boundary and existing fence are conducted at each site visit and observations recorded in the property logbook (refer Appendix 3).

2.2 Weed monitoring

The *Catchment and Land Protection Act 1994* lists noxious weeds and requires that all landowners take reasonable steps to prevent the spread of, eradicate or control noxious weeds on their land. The OMP requires that monitoring for all new and emerging weeds should be conducted in Spring each year for the term of the management plan, and that any new or emerging weeds identified and controlled. All weed control works must comply with *BushBroker Information Sheet 8–Standards of management – Weeds* (DSE 2012b).

2.2.1 Woody weeds

Directions in the OMP for woody weed monitoring and control are as follows:

- Walking transects at 20m spacing; 8 transects lines extending for approximately 300m.
- All patches of infestations or individual plants are to be mapped with a GPS followed up with appropriate treatment by an experienced contractor.
- Weeds should be treated before flowering and indigenous plants must not be impacted during treatment. Monitoring of woody weed species will involve inspection of the entire offset area annually in Spring with subsequent monitoring to revisit previously mapped infestations to evaluate success of weed control

This monitoring was conducted over two days, by Emma Wilkin of Practical Ecology, on the 5th and 6th of October 2020, the results of which are to inform the annual works plan for 2021.

2.2.2 Herbaceous weeds

The OMP states that during site transect monitoring for woody weeds, notes and location (GPS) of existing and emerging herbaceous infestations should be recorded. As such, this monitoring was also completed on 5th and 6th of October 2020, the results of which are to inform the annual works plan for 2021.

2.3 Vegetation Condition Survey

2.3.1 Quadrats

Vegetation assessment is required in permanent plots/quadrats within the Swift Parrot offset area. In order to monitor site regeneration. Six (6) 30x30 meter plots are established across the 4.5 ha offset site with one (1) quadrat in Habitat Zone 1F and five (5) quadrats established in Habitat Zone 1G. Plots are marked by permanent posts, placed in the South-West corner and tagged with a plot number identifier. Figure 1 below shows the placement of permanent quadrats within the Swift Parrot offset site.

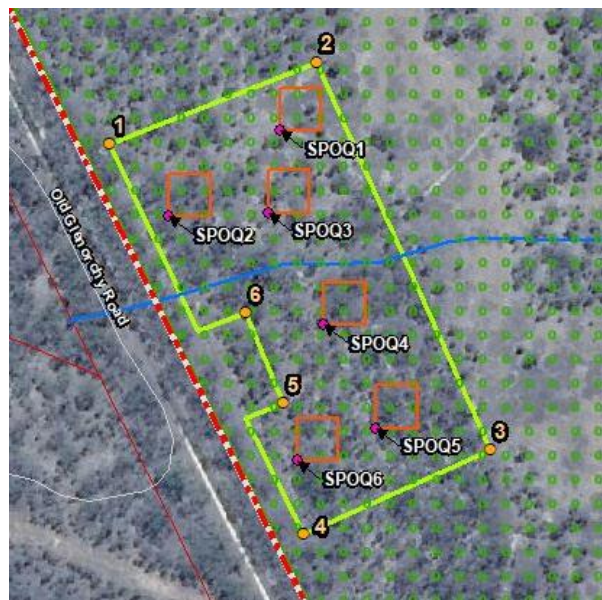


Figure 1. Map of property boundary (red), Swift Parrot offset boundary (green), Quadrats (Orange) and Photopoint location in the SW corners (Pink)

2.3.2 Habitat Hectare Assessment

Habitat Hectare Assessments (VQA) were conducted on 6th October 2020 by DELWP accredited assessor and co-owner of the property Lincoln Kern. Assessments were conducted within each of the 6 quadrats using standard DELWP Habitat Hectare methods (DSE 2004). Results of assessment are shown in Section 3.7.2 – Table 3

2.3.3 Vegetation Structure Monitoring

Data is to be collected across the entirety of the site at points of set distance – approximately every 20 meters along a transect line. Survey points are to be recorded with GPS and. These transect lines are the same as those for the woody/herbaceous weed survey, therefore both the weed survey and vegetation cover assessment can occur at the same time.

- Definitions of size classes are listed in Table 1
- At each survey point, assessor is to survey the area within a 10-meter radius of the point. Data may be collected using Data Sheets or tablet with suitable software such as ArcCollector. The following information of the 10m-radius area is to be recorded
 - o Presence and identification of Eucalypt species
 - o If Yellow Gum is present, collect information on the number of different cohort's present
 - o If Yellow Gum seedlings are present, estimation of number of seedlings
 - o Presence and identification of Wattle species or other shrubs
 - o If shrubs present, collect information on their number and proximity to Yellow Gum seedlings
 - o Information on weed species also recorded during this time, and GPS located as appropriate

Table 1. Classification and definition of cohorts/size classes

Eucalypt Species Yellow Gum and Grey Box			Acceptable Window (number trees/quadrat	
Size Classes	Large Old Tree (LOT)	>70cm DBH	15m tall	any
	Canopy Tree	<70cm DBH	12m- 15m tall	>5
	Immature Canopy Tree	>5cm DBH	1.5m-12m tall	>5
	Seedlings/Saplings	<5cm DBH	<1.5m tall	30-90
Acacia /Shrubs				
Size Class	Mature	>5cm	>1.5m tall	<40
	Seedlings/Saplings	<5cm DBH	<1.5m tall	<1.5 x more than yellow Gum Seedlings

2.3.4 Photo points

Photo points for each quadrat are directed to be taken annually in Spring. Quadrats were established on site, and photographs taken from a position at the South–West corner marker (Figure 2) looking in a North–Easterly direction and including the corner marker post in the centre of the photograph. The photopoints are shown in this report in Results Section 3.8–Photopoints. Photopoint locations are also shown in Figure 1

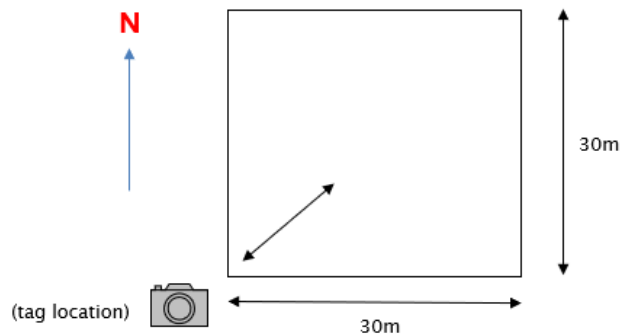


Figure 2. Diagram of quadrat and photo point setup.

2.3.5 Plant identification

Species that could not be identified in the field were recorded to the nearest possible family or genera. These were then collected as per the protocols associated with Practical Ecology's *Flora and Fauna Guarantee (FFG) Act 1988 permit (No. 10004805)* for the collection of plant material. In order to assist in the identification of some flora, major features of the specimens were collected where possible, including leaves, parts of branches, fruit and/or flowers.

2.4 Pest animal monitoring

The *Catchment and Land Protection Act 1994* lists rabbits and foxes as established pest animals and requires that all landowners take reasonable step to prevent the spread of, and as far as possible eradicate, established pests on their land. Signs of pest animals are to be recorded during weed monitoring surveys, and all other times when visiting the site, with any identified areas to be supplied to a pest animal management contractor for treatment. The OMP states the following directions

- Foxes to be controlled if found on the property. Dens identified to be located (GPS) and destroyed through fumigation and hand collapse
- Rabbits monitored and controlled throughout the year– if rabbit activity is detected, burrows identified are to be recorded (GPS) and an integrated approach in accordance with *Bush Broker information Sheet 7– Standards of Management – Rabbits (DSE 2012a)* is to be implemented: Fumigation, hand collapsing of burrows and baiting; Removal of any carcasses to prevent poisoning of native predators; Monitor and control for any new and emerging pest animals

Site visits including inspections for signs of pest animals were conducted within the monitoring period. Details of these site visits can be found in Results Section 3.2–Property Log Book and Section 3.6–Pest Animals.

3. Results – Management

3.1 Fencing

Boundary fencing was improved in Year 2 period in several locations in response to an incident of firewood removal at the north west corner of the property, adjacent to Old Glenorchy Road and outside of the Swift Parrot Offset Area. This area was reinforced with semi-temporary star picket fencing in locations where vehicle access from Old Glenorchy Road is possible.

In response to findings of the Year 1 independent Audit, Deep Lead Property Pty Ltd agreed to install new boundary fencing in order to meet the requirements for effective protection of the site, and in line with *BushBroker Standards for Management – Fencing* (DSE 2012c), with fence installation to commence in Summer 2021.

3.2 Woody Weeds

No woody weeds have been identified within the Swift Parrot Offset Site at any time, including during initial assessments for the entire property conducted by Brett Lane and Associates and assessments conducted by Biosis for the establishment and subsequent audits of the Swift Parrot Offset area.

Sugar Gum *Eucalyptus cladocalyx* have been identified as the only woody weed on the entire property and does not occur within the Swift Parrot Offset area. There is no intention to remove the mature Sugar Gums as they are considered habitat, with removal likely being detrimental. Treatment of Sugar Gums seedlings or saplings is however identified as a priority. A total of four (4) saplings were removed in the Year 2 period using cut and paint method. Treatments to prevent successful sugar gum recruitment will continue to occur each year until mature trees senesce and the species eradicated from the site.

3.3 Herbaceous Weeds

Control of herbaceous weeds was undertaken by Practical Ecology contractors in early September 2020. Species targeted for treatment are summarised in Table 2 below. All weeds were treated with the aim of ensuring that weed cover does not increase beyond December 2017 levels, as required in the OMP. Refer to Appendix # for further documentation relating to completed weed control activities.

Table 2. Summary of herbaceous weed control works completed

Date	Weeds treated	Method
1-2/9/20	<i>Ehrharta longifolia</i>	Spot spray
1-2/9/20	<i>Arctotheca calendula</i>	Spot spray
1-2/9/20	<i>Stellaria media</i>	Spot spray

3.4 Supplementary Planting

Yellow Gum and Grey Box seed was collected onsite by the landowners in April and October 2019 for the purposes of germinating seedlings for replanting within the site. The landowners adopted a social procurement strategy in placing the seed with local Nursery GreenFingers, a local nursery enterprise based in Stawell, employing staff with disability.

Seed germination occurred with varying success, and resulted in approximately 300 Grey Box and 200 Yellow Gum tube stock, available for planting back onto the site. The total of approximately 500 plants were installed at the property in late August and early September 2020. Plantings within Zone 1F were installed on the 24th August, 2020, and consisted of approximately 60 tube stock of approximately 40 Yellow Gum and 20 Grey Box, installed with TreeMax timber stakes and corflute guards.

Planting occurred in areas identified within the mapped zone, with avoidance of areas of indigenous groundstorey. Planting was therefore focused on areas outside of patches of native rush that extend through the wetter centre of the site. Monitoring and recording of the success of these plantings will occur in the following years.

4. Results – Monitoring

4.1 Vegetation Condition Survey

4.1.1 Cohort Assessment

September 2020 was the first implementation of new methodology being applied the site to accurately identify circumstances where Yellow Gum may not be seen to be regenerating effectively or where ecologically thinning of understory species should be considered in order to ensure adequate recruitment of Yellow Gum as the key food source for Swift Parrot. The mapped results of this monitoring are displayed in Appendix 1 – Map 2 and summarised in figure 3 below.

This trial monitoring was viewed as successful in its ability to identify locations within the offset area that may require targeted thinning of understory species, specifically *Acacia pycnantha*, in order to reduce competition to allow for adequate regeneration of Yellow Gum.

A total of 131 points, each assessing a 10m radius area, were used to assign Vegetation Structure Scores across the extent of the site. The Vegetation Structure Score was determined by the identifying the presence of each of the following four circumstances, or factors, where 0 factors present = “good”, all 4 factors present = “poor”, with a scale of values between. The factors for identifying the vegetation Structure Score are as follows;

- *Acacia spp.* seedling/saplings are present
- number of *Acacia* seedlings/saplings are greater than 1.5 times the number of eucalyptus seedlings/saplings present
- there are more than 10 *Acacia* individuals present of at least 1.5m tall (tall acacia)
- tall *Acacia* (>1.5m) are growing within the dripline of mature Yellow Gum

Figure 3 below summarises the results of Vegetation Cohort Assessment in Year 1, providing an overview of frequency of the Vegetation Structure Scores across the extent of the site.

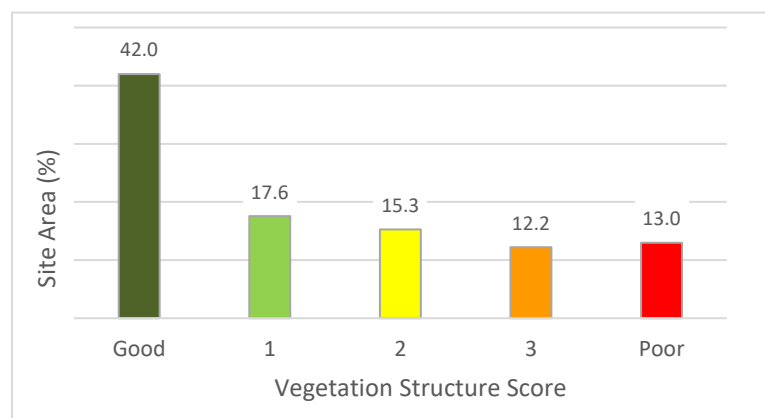


Figure 3. Summary of Cohort assessment findings– 2020

4.1.2 Habitat Hectare Assessment

The Habitat scoring method was applied as directed by the OMP, and as outlined in the *Vegetation Quality Assessment Manual – Guidelines for applying the habitat hectares scoring method* (DSE 2004). Assessment was conducted 7th September 2020, results outlined below in Table 3. While the site presents as having relatively good quality vegetation in general, it must be noted that the property and broader region has a history of extensive goldmining, with evidence of this found as mullock heaps, open mines other indications of significant soil disturbance in the past. Drought and historic soil disturbance are likely factors in the generally low scores relating to understory species. Large trees are well represented within the plots, and in general across the site – and are an important indication of the availability of foraging resources for Swift Parrot.

Table 3. Summary of Habitat Hectare Assessment results

Habitat Zone/Quadrat		SPOQ1	SPOQ2	SPOQ3	SPOQ4	SPOQ5	SPOQ6
Bioregion		WIM	WIM	WIM	WIM	WIM	WIM
EVC Name (initials)		PSW	SSW	SSW	SSW	SSW	SSW
EVC Number		283	882_61	882_61	882_61	882_61	882_61
EVC Conservation Status		DE	EN	EN	EN	EN	EN
Size of Zone/Quadrat (ha)		0.009	0.009	0.009	0.009	0.009	0.009
		Max Score	Score	Score	Score	Score	Score
Site Condition	Large Old Trees	10	0	10	9	10	9
	Canopy Cover	5	5	2	4	3	5
	Understorey	25	15	10	10	15	15
	Lack of Weeds	15	7	13	9	13	9
	Recruitment	10	0	3	10	5	10
	Organic Litter	5	5	3	5	5	5
	Logs	5	0	3	3	5	2
	EVC Standardiser	n/a	1	1	1	1	1
Standardised Score		75	33	45	51	52	56
Landscape value	Patch Size	10					
	Neighbourhood	10	19	19	19	19	19
	Distance to Core	5					
Habitat points		100	52	64	70	71	74
Habitat Score		1	0.52	0.64	0.70	0.71	0.74

4.2 Pest animals

During the Year 2 period, there has been some evidence of relatively fresh scats as well as some occurrences of fresh scratching (logbook September 2020, refer Appendix 2). There has however been no sign of rabbit permanently infestations at the site. All older warrens appear to remain unoccupied and show no sign of recent activity. Further monitoring of rabbits will continue quarterly, with the aim to determine appropriate rabbit control, if required, to be conducted in Year 3, 2021.

No observations of foxes or other pest animals were identified.

5. Discussion

Monitoring and management actions prescribed in the OMP for Year 2 of monitoring at Old Glenorchy Road, Deep Lead have been completed with relative success. A summary of the achievement of management actions is listed in Appendix 4 of this report. Year 2– October 2019 to October 2020 has been successful in completing required monitoring, management and planting as directed in the OMP.

Non-compliance

There is one item of management where nominal non-compliance of the OMP has occurred. Site visits listed in Property Log Book (Appendix 2) have confirmed that the outer fences of the property are present but not in good working order. Findings of the Year 1 Audit (Biosis 2020) found that the current fence condition results in a non-compliance for *Objective 1– Exclusion of Stock, unauthorised activities and vehicle access* although fencing is only strictly required when it is possible that stock might enter the offset which could not occur here because no adjacent properties have domestic stock. Nonetheless, Deep Lead Property Pty Ltd have committed to the installation of a new boundary fence in 2021 in order to respond directly to this non-compliance, and to ensure compliance in future years.

Supplementary Planting

Supplementary planting as directed by both the overall and Swift Parrot Site OMP was conducted in late winter and early Spring 2020, using seed collected on site and propagated at a local nursery. It should be noted that the soil conditions the planting areas were not ideal, that being Zone 1F (Swift Parrot Offset) and Zones 1D and 1J. Approximately 90% of the 500 tube stock seedlings installed at the site were planted into very heavy clay. It may be that this soil type has a causal relationship with the lack of canopy species recruitment through the centre of the property, primarily in the areas identified as EVC Plains Sedgy Woodland. Monitoring conducted in Year 3 will determine the approximate success rate of the planting, and may provide further clarification on the appropriateness for predetermined survival rates are directed in the site OMP.

Vegetation Monitoring

The first year of implementation of vegetation cohort monitoring was completed in Year 2, and was successful in highlighting areas that may require ecological thinning. Minor changes to methodology were made in the field, specifically relating to the height categories of both *Eucalyptus* and *Acacia* species so as to accurately categorise the vegetation at the site. Further refinement will be made for monitoring in Year 3, after which decisions will be made about implementing ecological thinning as a response to two years of monitoring.

It should be noted that the Vegetation Structure Score is used to provide an indication of the relationship between recruitment of *Eucalyptus* and *Acacia* species only, and does not reflect the vegetation quality or diversity overall. The Vegetation Structure Score relies on assumption that where *Acacia* individuals greatly outnumber *Eucalyptus* seedlings, that this will likely result in a negative impact of *Eucalyptus* recruitment over time. This is also expressed in the site OMP as follows.

“If the cover of immature canopy trees, understorey trees or medium shrubs (1 to 5 m tall) is greater than 20% higher than the EVC benchmark then the relevant species will be thinned to achieve a cover of approximate 5%. If the cover of either group is significantly less than 5% then action to encourage regeneration of Yellow Gum and other medium shrubs will be implemented by either addressing threats to regeneration or planting nursery stock to achieve a cover closer to 5%.”

Actions in response to the results of vegetation monitoring will not be implemented until 2 years of monitoring are completed, and will be completed in a staged process with additional monitoring to identify the success of such works.

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- DSE (2012b). BushBroker information sheet number 8. Standards for management – Weeds. Department of Sustainability and Environment, Melbourne.
- DSE (2012c). BushBroker information sheet number 12. Standards for management – Fencing. Department of Sustainability and Environment, Melbourne.

Appendix 1. Maps

Map 1 – Site Map

Map 2 – Vegetation Cohort Monitoring



Legend Subject site Contours (10m) Watercourse Parcels Potential dwelling envelope Superb parrot Offset site Swift Parrot Offset site corners Swift Parrot Offset quadrat SW corner Swift Parrot Offset quadrats (30m x 30m)		Land Management Zones Domestic Zone Offset Zone		Details Data Source: Base layers courtesy of VicMap, Copyright © State of Victoria. Aerial photography from Google Earth Pro (Nov 2015). Date: 15/01/2020	Swift Parrot Offset site 237-240 Old Glenorchy Road Deep Lead Scale 1:1,500 (Page size A3)
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Legend Subject site Contours (10m) Watercourse Parcels		Vegetation structure score 0 - Good 1 2 3 4 - Poor	Details Data Source: Base layers courtesy of VicMap, Copyright © State of Victoria. Aerial photography from Google Earth Pro (Nov 2015). Date: 23/11/2020	Cohort Monitoring 237-240 Old Glenorchy Road Deep Lead Scale 1:1,080 (Page size A3)
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Appendix 2. Logbook

Date	Visitor	Tasks completed	Observations
23-Oct-19	Paul Guest	Surveillance - drove all boundaries. Spent <i>Senecio macrocarpus</i> sighted in and near domestic zone. Collected Grey Box seed and delivered to GreenFingers Nursery. No Yellow Gum seeds recoverable.	
4-Nov-19	Lincoln Kern	Walked entire site to collect photo points. Some confusion over numbering of photopoints but have hopefully solved the discrepancies. No disturbance. (Update Jan 2020- Photopoint numbers resolved - updated map is accurate)	
11-Feb-20	Paul Guest	Site inspection.	Spent s.mac, kangaroos
27-Mar-20	Lincoln Kern	Site inspection - walked site. No signs of disturbance.	
1-Apr-20	Correspondence w GreenFingers	Status of seed collected - approx. 150 Yellow Gums and 295 Grey Box	
6-Jun-20	Lincoln Kern	General site inspection - no disturbance	
24-Jun-20	Paul Guest	Site inspection - walked site. checked into nursery to check on tube stock. No signs of illegal entry.	SRF flowering
24-25 Aug-20	Emma Wilkin Jimmy Kern Oskar Weber	200 tube stock planted with guards Temporarily fixed fencing at NW Corner location where it is possible for vehicle access to occur)	SRF flowering
1 Sept	Emma Wilkin Jimmy Kern Oskar Weber Lincoln Kern	220 tube stock planted with guards Removed half of the wire - Large amount Logs replaced at NW corner Weed control - Spot spraying- 1G, 1E, 1C, 1H, 1L north, 1A south Ehrharta longifolia- annual veldt grass Arctotheca calendula - cape weed Stellaria media - chickweed Weed control- cut/paint 3 x sugar gum saplings on eastern rail boundary	SRF flowering kangaroos
2 Sept-20	Jimmy Kern Oscar Weber Lincoln Kern	Plant remaining 80 trees remove chipboard remove remaining wire additional weed control- spot spray	Signs of recent rabbit scratchings, relatively fresh scats – no signs of active burrows
5-Oct-20	Emma Wilkin Lincoln Kern Paul Guest	Swift Parrot Vegetation monitoring and Habitat Hectare Assessment Photopoints	Kangaroos Spent <i>S. macrocarpus</i>

Appendix 3. Photopoints

Year 1

Year 2



Figure 4. Photo Point SPOQ1



Figure 5. Photo Point SPOQ2



Figure 6. Photo Point SPOQ3

Year 1

Year 2



Figure 7. Photo Point SPOQ4



Figure 8. Photo Point SPOQ5



Figure 9. Photo Point SPOQ6

Appendix 4. Summary of management actions – Year 2

Objective	Standard to be achieved	
1- Exclusion of stock, unauthorised activities and vehicle access	Exclusion of domestic stock from offset area	Green
	Exclusion of vehicles from offset area	Green
	Exclusion of unauthorised access or unauthorised firewood collection	Red
	Maintain perimeter fencing to BushBroker Information Sheet 12 (DSE 2012c)	Red
2- remove all woody weed infestations	No woody weeds present within offset area (<1% cover)	Green
	woody weeds not to interfere with shrub or canopy recruitment	Green
	minimise off target damage to all native plants during weed control works	Green
3- monitor and control herbaceous weeds	Herbaceous weeds cover not exceed current levels	Green
	herbaceous weeds not to interfere with shrub or canopy recruitment	Green
	minimise off target damage to all native plants	Green
4- monitor and control new and emerging weeds	New outbreaks of woody weeds to be removed as soon as detected	Green
	no woody weeds present within offset area	Green
	minimise off target damage to all native plants	Green
5- monitor and control Rabbits Hares and Foxes	no fresh ground disturbances by pest animals observed in the offset area	Green
	no active rabbit warrens within offset area	Green
	minimal surface harbour for rabbits and hares present	Green
6- monitor and control all new and emerging pest animals	control numbers of any new and emerging pests	Green
7- Monitor tree and shrub regeneration and overstorey condition	tree layer continues to regenerate and provide habitat for swift parrot	Green
	Maintain cover of immature canopy trees and understory trees or large shrubs to a level < 20% higher than the EVC benchmark. If cover levels exceed 20% then they will be thinned to achieve a cover of ~5%. if the cover is significantly <5% than action to encourage generation of yellow gum and other shrubs will be implemented by addressing threats or planting tube stock to achieve cover closer to 5% (Vegetation Structure methodology is used to measure	Green

not achieved	Red
partially achieved	Yellow
achieved	Green

Appendix 5. Summary of management actions – Year 2

OMP Section	Management Action	Parameters Measured	Survey/monitoring Guidelines	Where	When	Actions/Notes from Year 1
3.9.1	Fence Condition	Condition of boundary fences	Survey the perimeter of the offset site – any damage that allows entry of stock/vehicles must be repaired immediately	Offset site perimeter	Quarterly	Fences not adequate – commitment made to install new boundary fencing in early 2021
3.9.2	Weed monitoring	Cover of woody and herbaceous weed species present	Vegetation survey to be conducted – transect lines 20m apart, complete coverage of site– identify woody and herbaceous weed species to determine cover. Woody species to be mapped using GPS and treated. Herbaceous weed cover (% cover) to be estimated for each habitat zone (suitable patches mapped and treated) All weed species present to be identified to species level	Offset Area (Habitat Zones 1F and 1G)	Annual–Spring	Vegetation assessment completed. No woody weeds identified Results Result of herbaceous weed assessment incorporated into Annual works plan for implementation in 2021.
3.9.3	Pest animal monitoring – Rabbits/Hares/Fox/ New and emerging	Presence of pest animals or signs; scats, diggings, browsing or grazing	Signs recorded during vegetation surveys Locations of Rabbit warrens to be mapped (GPS) and treated (with addition further monitoring)	Offset Area (Habitat Zones 1F and 1G)	Annual–Spring	Observations recorded. No control measures implemented.
3.7.4	Tree and Shrub recruitment	Vegetation Condition Survey	–Tree and shrubs species and size classes to be – assessed within permanently marked quadrats. –Photo point monitoring –Habitat Scoring Assessment	Offset Area (Habitat Zones 1F and 1G)	Annual–Spring	Completed. Use of HabHectare Assessment and new methodology for cohort monitoring
Type of Report		Approval condition	Timing		Reporting Authority	Trigger (if any)
Annual Management Actions		To be completed	Offset site owner	Completed 31 st August	DOEE BushBroker	NA
Annual Monitoring Report		To be completed	Offset site owner	Monitoring completed in spring Report completed Nov 30	DOEE BushBroker	Completion of annual reporting
Review of OMP		To be completed	Offset site owner	As required	DOEE BushBroker	Significant environmental event–widespread damage
Audit Report		To be completed	VicRoads	End of years 1, 4, 8, 10	DOEE	NA