SLATE QUARRY FARM TENTERDEN

Planning for Remnant Vegetation Conservation & Restoration

Bushland Survey Report

Green Skills Inc

December 2024

This project received funding through the Western Australian Government's State Natural Resource Management Program and the Koorabup Trust with additional assistance provided by Green Skills, Gillamii Centre, and Gondwana Link.

GOVERNMENT OF WESTERN AUSTRALIA

natural resource management program

The Koorabup Trust

Gondwana Link
connecting people...connecting nature

ACKNOWLEDGEMENTS

Green Skills Inc. gratefully acknowledges permission and support from the landholders, David and Kate Hitchins to be able to undertake this survey for remnant vegetation conservation and potential restoration projects as part of the protection and restoration of the Forest to Stirlings section of Gondwana Link: http://www.gondwanalink.org/ This project received funding through the Western Australian Government's State Natural Resource Management Program, and the Koorabup Trust with additional assistance provided by Green Skills, Gillamii Centre, and Gondwana Link.

We would also like to pay our respects to the former owners, Merilyn and John Hitchins (both deceased) for their support with previous conservation projects, activities and flora and fauna surveys that have been undertaken on the property by Green Skills, Libby Sandford and Dr Sandra Gilfillan (Fauna Ecologist). Their contribution to these conservation and monitoring projects are much appreciated.

Many thanks to the land lessees, George and Kate Pollard, for meeting with us on site during the surveys and assisting us with information about the land capability, land uses and history of the property and surrounding areas.

We would also like to extend our appreciation to Bill and Jane Thompson who volunteered to assist the bushland surveys, to Donna and Eddy Wajon, the landholders of "Mondurup View", who provided us with an extensive list of flora and fauna that occurs on their property which is directly adjacent to the southern boundary of Slate Quarry Farm.

This report was prepared by Melissa Howe B.Sc. (Environmental Management) with input from Green Skills Project Officer, Basil Schur. Maps for the report were designed by Basil Schur and prepared by Maren Heckel.

All photos within the report were taken by Basil Schur and Melissa Howe unless otherwise noted.

Land lessee, George Pollard with survey team. Photo: Basil Schur

ACKNOWLEDGEMENT OF COUNTRY

Green Skills and the authors of this report would like to acknowledge the Noongar/Nyungar Traditional Custodians of the land on which we live, work, research and enjoy. We wish to pay our respects to the ancestors and Elders and to others for the continuing culture and care of this land. We are grateful to all the Aboriginal people that have shared their wisdom, knowledge and love of country with us.

Contents

1. SUMMARY

A survey of native remnant vegetation was undertaken on Slate Quarry Farm on 21st October 2024 to identify and prioritise opportunities for conservation protection works, potential restoration works and recommend management actions for the property.

The condition of the remnant vegetation assessed on the property ranged from degraded to excellent (see Appendix 1). The remnant vegetation on the property is worthy of protective conservation management due to the areas in good to excellent condition and the very high biodiversity and habitat values identified within these areas, including threatened flora and fauna species.

The presence of threatened and priority fauna species such as the state and nationally listed 'endangered' Carnaby's Cockatoo on the property observed by the land lessee and neighbouring breeding areas within 'Mondurup View' and the Stirling Range National Park and the Priority 4-listed Western Brush Wallaby has also been documented on the property makes these areas of remnant vegetation highly significant.

A protected matters search under the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 documents records of the occurrence, or likely occurrence of other threatened flora and fauna species and ecological communities and/or suitable habitat for them (see Appendix 2 & 3).

The remnant vegetation also forms part of an important ecological link pathway within the Forest to Stirlings section of Gondwana Link. Some of the areas of remnant native vegetation on the property are directly connected to the Stirling Range National Park as well as two waterways that traverse the property with fringing remnant vegetation being Slate Quarry Creek and the Young River which eventually flow into the Kalgan River. Areas of connected and proximal remnant vegetation provides important habitat and opportunities for the movement of many species of native fauna and flora across the landscape, thus preventing loss of biodiversity in conservation reserves and other areas of remnant vegetation connected to these eco-links.

This report recommends fencing and restoration projects for native remnant vegetation be undertaken on the property to create, maintain and improve vegetation and condition and enhance biodiversity and habitat values. These conservation works will also contribute to providing better habitat connectivity for wildlife and ecological linkages in the area. Proposals for restoration and revegetation projects are provided in Section 8: Native Remnant Vegetation Conservation Project Proposal.

Slate Quarry Creek supports a diversity of birdlife and fringing native remnant vegetation.
Photo: Basil Schur, October 2024

2. PROPERTY CONTEXT

A snapshot survey of remnant vegetation on Slate Quarry Farm was undertaken on 21st October 2024 to identify and prioritise future conservation works, restoration works and recommended management actions for the property as part of Green Skills and Gondwana Link Program: https://greenskills.org.au/ and http://www.gondwanalink.org/

The properties are situated at 1135 Chinninup Road, Tenterden Western Australia within the Shire of Cranbrook and are located on 8 certificate of titles:

SURVEY_LOT	TOTAL HECTARES	REMNANT VEGETATION HECTARES	CLEARED HECTARES	PRIORITY
LOT 1494 ON PLAN 119194	64	10.1	53.9	Medium
LOT 1608 ON PLAN 121842	65.5	9.3	56.2	Medium
LOT 2345 ON PLAN 230616	227.9	104.3	123.6	Very High
LOT 2772 ON PLAN 135414	39.9	30.3	9.6	Very High
LOT 2429 ON PLAN 135414	161.3	78.2	83.1	High
LOT 2487 ON PLAN 135842	65.6	11.7	53.9	Medium
LOT 1845 ON PLAN 124357	63.8	6.3	57.5	Medium
LOT 2344 ON PLAN 230616	210.7	59.7	151	High
TOTAL HECTARES	**898.7**	**309.9**	**588.8**	

Landscape view of Stirling Range National Park known as 'Koi Kyenunu-ruff' to the local Koreng people of the Noongar nation lies directly west of Slate Quarry Farm.
Photo: Basil Schur, October 2024

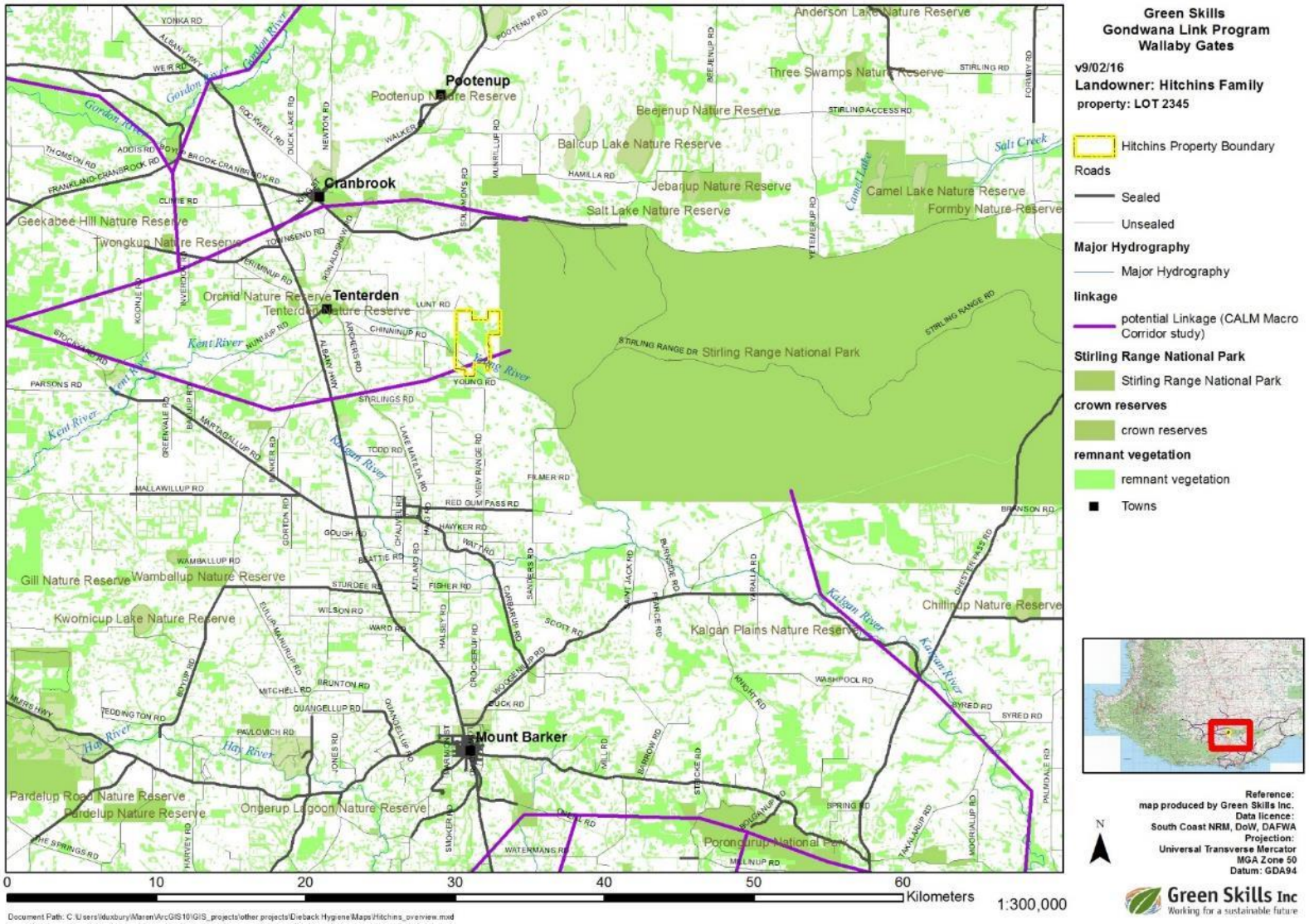
The property is bounded by Lunt Road to the north, Stirling Range National Park and neighbouring private property to the east, Chinninup Road and a privately owned conservation property "Mondurup View" to the east and south and a remnant native conservation reserve and neighbouring private property to the west. The surrounding farmland to the north and east has variable sized areas of native remnant vegetation, wetlands, lakes and waterways. The nearest reserve to the property is Stirling Range National Park (R 14792) which is a 113,374.4921-hectare area of native remnant vegetation managed by the Department of Biodiversity and Attractions (DBCA), directly adjacent to the eastern boundary of Slate Quarry Farm.

The land uses on the property are currently cropping and sheep grazing. The survey area for this report lies between approximately 215 and 281 metres above sea level. Young River and Slate Quarry Creek traverse through the property. Slate Quarry Creek flows into the Young River just south of the property which flows into the Kalgan River and eventually into Oyster Harbour on the South Coast east of Albany. The Kalgan River has a catchment area of about 2,490 km2, about three-quarters of which has been cleared for agriculture. It is the largest of the Oyster Harbour catchments. The dominant land uses are cropping and mixed grazing, and conservation and native vegetation.

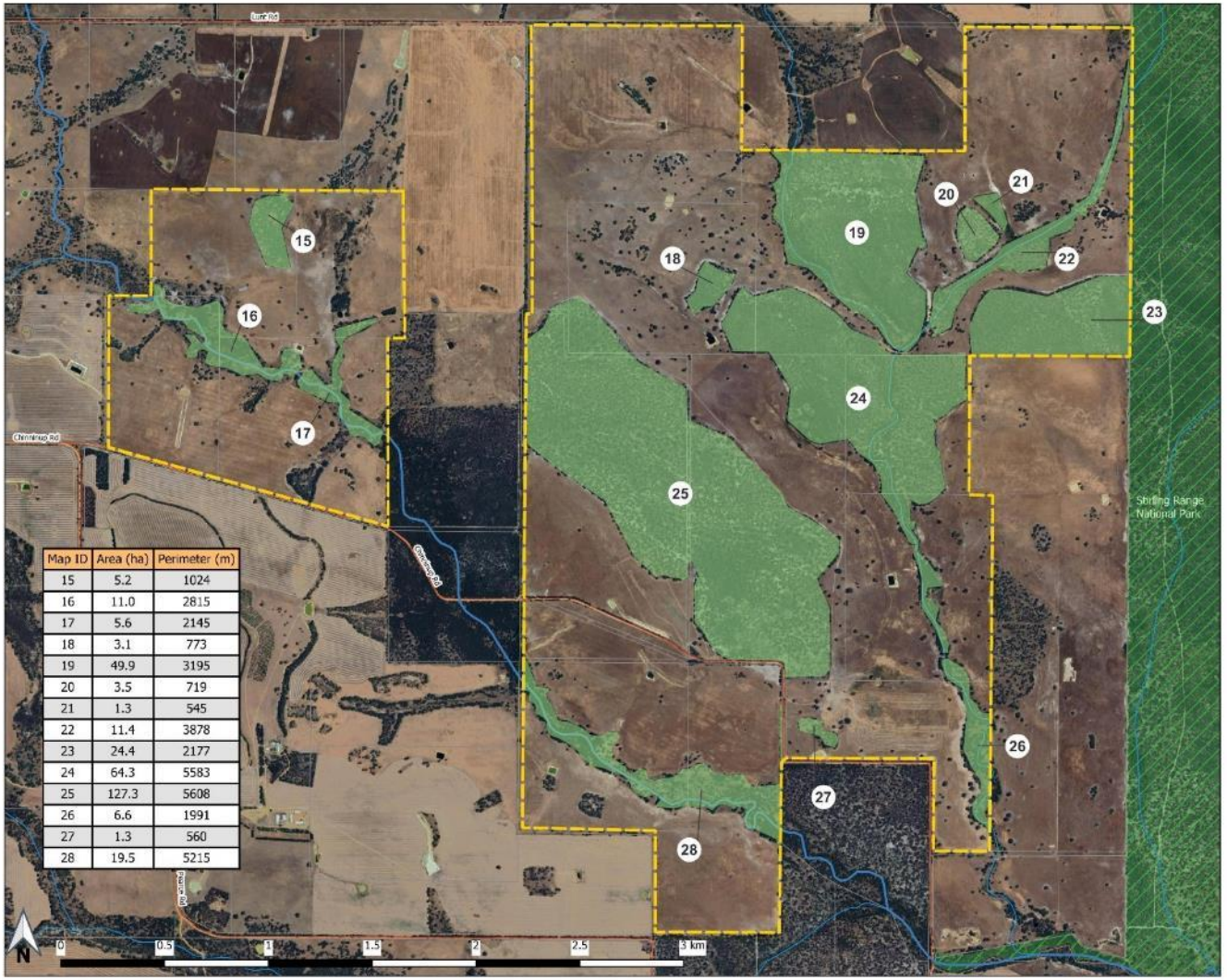
Slate Quarry Creek runs through this Yate (*Eucalyptus cornuta*) woodland remnant native vegetation.
Photo: Basil Schur, October 2024.

3. MAPS

MAP 1: SLATE QUARRY FARM - PROPERTY CONTEXT



MAP 2: SLATE QUARRY FARM REMNANT VEGETATION BASEMAP



Map ID	Area (ha)	Perimeter (m)
15	5.2	1024
16	11.0	2815
17	5.6	2145
18	3.1	773
19	49.9	3195
20	3.5	719
21	1.3	545
22	11.4	3878
23	24.4	2177
24	64.3	5583
25	127.3	5608
26	6.6	1991
27	1.3	560
28	19.5	5215

Remnant Vegetation Basemap

Slate Quarry Farm (Hitchins)

Property Boundary
Remnant Vegetation
Cadastre

Roads
Local Road

Hydrology
River/Major Stream
Minor Stream

DBCA Legislated Lands and Waters
National Park

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Map production 13/03/2024

MAP 3: SLATE QUARRY FARM REMNANT VEGETATION BY TITLE

Survey Lot	Lot Area (ha)	Area of Bushland (ha)	Area of Cleared Land (ha)	Priority
LOT 1494 ON PLAN 119194	64.0	10.1	53.9	Low
LOT 1608 ON PLAN 121842	65.5	9.3	56.2	Low
LOT 2345 ON PLAN 230616	227.9	104.3	123.6	Very High
LOT 2772 ON PLAN 135414	39.9	30.3	9.6	Very High
LOT 2429 ON PLAN 135414	161.3	78.2	83.1	High
LOT 2487 ON PLAN 135842	65.6	11.7	53.9	Low
LOT 1845 ON PLAN 124357	63.8	6.3	57.5	Low
LOT 2344 ON PLAN 230616	210.7	59.7	151.0	Low

Remnant Map ID	Area (ha)	Perimeter (m)
18	3.1	773
19	49.9	3195
20	3.5	719
21	1.3	545
22	11.4	3878
23	24.4	2177
24A	3.7	805
24B	13.7	1712
24C	11.7	1440
24D	30.3	2397
24E	4.9	2305
25A	0.2	225
25B	4.8	969
25C	59.7	3565
25D	59.6	3434
26A	1.4	489
26B	5.6	1767
27	1.3	560
28A	10.1	2785
28B	9.3	2718

Property Selection

Slate Quarry Farm (Hitchins)

Property Selection
Property_Boundary_Selection
Remnant Vegetation
Cadastre
Roads
Local Road
Hydrology
River/Major Stream
Minor Stream
DBCA Legislated Lands and Waters
National Park

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Map production 05/05/2024

4. SURVEY TEAM

- Basil Schur – Green Skills Inc. Project Manager
- Melissa Howe (BSc Environmental Management) – Consultant Ecologist, contracted by Green Skills Inc.
- Jane Thompson – Green Skills Volunteer
- Bill Thompson – Green Skills Volunteer

Green Skills survey team volunteers Jane (left) and Bill Thompson (middle) with Ecologist, Melissa Howe (right).
Photo: Basil Schur, October 2024.

5. SURVEY METHODS

A snapshot vegetation survey was undertaken on Slate Quarry Farm in Tenterden by the survey team assessing a range of core attributes for four remnant vegetation sites. Core attributes selected and assessed included vegetation type, vegetation condition, size and perimeter of the remnant vegetation, presence of Threatened or Priority Ecological Communities, Threatened, Specially Protected and/or Priority flora and fauna species (if known), presence of wetlands or waterways, connectivity to other vegetation and observed or potential disturbances and threats.

The sites containing remnant vegetation were assessed for their vegetation condition. The vegetation condition assessment was adapted from the Keighery Condition Scale (Keighery, 1994) based on a rating of 1 (*Very degraded*) to 5 (*Excellent*) (see Appendix 1).

Vegetation types were assigned based on Beard vegetation associations (Beard et al, 2013b) with further classification of vegetation associations based on the dominant flora species structure and composition. Subsequently, a priority rating was assigned to each site ranging from *Very high* to *Low* for future native remnant vegetation conservation works and management actions based on a subjective review of each site's overall core attributes.

Management recommendations and reasons for priority ratings were attributed to each site (see Section 8 & 9). All remnant vegetation areas on the property were mapped. Twelve areas of remnant vegetation were assessed and photos were taken for each site assessed and included in Section 8: Site Survey Summary and Management recommendations.

Data collected was recorded on vegetation survey sheets developed by Green Skills and consultants for this assessment (see Appendix 4).

One restoration and revegetation project for an area of very importantnative remnant vegetation and waterways has been proposed for the property (see Section 9).

Survey team documenting flora within Jarrah-Marri remnant vegetation.
Photo: Basil Schur, October 2024.

6. FLORA, VEGETATION & FAUNA HABITAT VALUES

The property is contained within the Jarrah forest Interim Biogeographic Regionalisation for Australia (IBRA) region and Southern Jarrah subregion (Department of Climate Change, Energy, Environment and Water (DCCEEW), 2020).

In 2018, it was estimated that 35.42% (115,991 hectares) pre-European vegetation remained in the Shire of Cranbrook (Government of Western Australia, 2018) and the condition of much of this remaining vegetation, wetlands, lakes and waterways is not known or formally protected in reserves from the impacts of grazing, cropping, damming, clearing, inappropriate fire regimes and other activities that would have adverse impacts.

There are approximately fourteen areas of native remnant vegetation on the property ranging from 1.1 hectares to 127.3 hectares. All of these areas of remnant vegetation on the property were surveyed totalling about 370.6 hectares Young River and Slate Quarry Creek also traverse the property and eventually run into the Kalgan River.

The vegetation types identified within the remnant vegetation areas surveyed on the property are predominantly:

- Banksia (*Banksia attenuata*) woodland
- Jarrah (*Eucalyptus marginata*)-Wandoo (*Eucalyptus wandoo*) woodland
- Jarrah (*Eucalyptus marginata*)-Marri (*Corymbia calophylla*)-Wandoo (*Eucalyptus wandoo*) forest
- Mixed Jarrah (*Eucalyptus marginata*)- Marri (*Corymbia calophylla*)-Moit/Redheart (*Eucalyptus decipiens*)- Wandoo (*Eucalyptus wandoo*) woodland
- Wandoo (*Eucalyptus wandoo*) woodland
- Yate (*Eucalyptus cornuta*) – Freshwater Paperbark (*Melaleuca rhaphiophylla*) woodland

Additional vegetation units based on the descriptions of Sandiford (2012) were identified on the property during this survey as follows:

- Wandoo (*Eucalyptus wandoo*)/Jarrah (*Eucalyptus marginata*) over *Banksia sessilis* Tall Open Shrubland
- Wandoo (*Eucalyptus wandoo*) and/or Jarrah (*Eucalyptus marginata*) Woodland to Low Open Woodland over *Banksia armata* Low Shrubland

An area of very good condition remnant native vegetation on Slate Quarry Farm.
Photo: Basil Schur, October 2024.

A desktop Protected Matters Search of nationally significant features in the property area was undertaken. Numerous threatened flora and fauna species were identified as likely or potentially occurring on the property or within a 5-kilometre radius of the property (see Appendix 2 and 3). Two threatened ecological communities, Kwongkan shrubland and Eucalypt woodlands of the WA Wheatbelt, were also identified as potentially or likely to occur on the property. Although there were no areas of remnant vegetation identified during the surveys that fitted the criteria to qualify as either of these threatened ecological communities, a more comprehensive survey would be warranted to assess the remnant native vegetation on the property for the occurrence of these threatened ecological communities.

Threatened species known to occur on Slate Quarry Farm include Carnaby's Cockatoo (*Zanda latirostris*), listed as 'endangered' under Western Australian and national legislation which is also known to be breeding on the property and "Mondurup View", a private conservation reserve neighbouring the property. Artificial nest hollows have been erected on Mondurup View propert and evidence of their very successful use for nesting has been observed there.

Evidence of the occurrence of the Western Brush Wallaby (*Notamacropus irma*) was also observed on the property. It is listed as a Priority 4 fauna species which is defined as rare, near threatened or other species in need of monitoring. A previous conservation project involved installing wallaby gates on the farm to allow access for the wallabies to use the areas of remnant vegetation for habitat. The gates were found to be utilised by the wallabies during this survey.

WALLABY GATES FOR WESTERN BRUSH WALLABY – KWOOR

Western Brush Wallaby gates have been installed on Slate Quarry Farm and some were found to be utilised during the surveys.

Site 25C: Survey team check the wallaby gate for use by Western Brush Wallaby.

Site 25C: Pointing out a Western Brush Wallaby scat right beside the wallaby gate.

Site 23: Checking for tracks and scats around the wallaby gate installed on Slate Quarry Farm's eastern property boundary shared with the Stirling Range National Park.

7. CONSERVATION PRIORITIES AND RECOMMENDATIONS

This report includes recommendations for native remnant vegetation and waterway areas to be retained and protected. One restoration and revegetation project has been recommended adjacent to areas of remnant vegetation and waterways on the property to maintain and improve the integrity, condition and biodiversity and habitat values of these areas, buffer the impacts of farming activities and provide ecological linkages with adjacent remnant vegetation within the Forest to Stirlings section of Gondwana Link (see Section 7 & 9).

1. An overarching priority recommendation is to check and maintain the existing fencing around the remnant native vegetation and creeklines:

- removal of fallen limbs and overhanging branches
- restraining sections where necessary
- replacement or addition of star pickets or other sections

- patchwork repair of ring lock and gates where necessary

2. Undertake the proposed restoration and revegetation and creekline fencing project with landcare funding support:
   - 27.7 hectares of restoration and revegetation works made up of 20.5-hectares and 7.2-hectares
   - 2,135 metres (made up of 923 metres and 1,212 metres) of fencing works in conjunction with the restoration and revegetation project

3. Consider sale of the following locations as the highest priority for conservation and restoration:
   - Priority A - Lot 2345 on Plan 230616
   - Priority B - Lot 2772 on Plan 135414
   - Priority C - Lot 2429 on Plan 135414
   - Priority D - Lot 2344 on Plan 2306616

Alternatively undertake a boundary redistribution for all of Slate Quarry Farm

Survey team standing in Menglers paddock, part of which has been proposed for a restoration and revegetation project. Photo: Basil Schur, October 2024.

8. SITE SURVEY SUMMARY AND MANAGEMENT RECOMMENDATIONS

SITE 17			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers		**Connectivity to other vegetation** (Y/N)	Y – Site 16

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Yate-Flooded Gum Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X	X	
Mid	X					X	
Lower							
Ground	X					X	

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)						

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	possible	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - understorey
	Salinity	possible	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus cornuta (Yate), *Eucalyptus rudis* (Flooded Gum), *Corymbia calophylla* (Marri)
Weed species: *Asparagus asparagoides* (Bridal Creeper), *Ehrharta calycina* (Perennial Veldt Grass)

FAUNA SPECIES

SITE NO.	**AREA (hectares) PERIMETER (metres)**	**VEGETATION TYPE**	**VEGETATION CONDITION** 1-VERY DEGRADED TO 5-EXCELLENT	**PRIORITY FOR MANAGEMENT** LOW, MEDIUM, HIGH, VERY HIGH
17	5.6 ha/2,145 m Add remnant not mapped ha/ m	Yate-Flooded Gum woodland	2 - Degraded to 3 - Good	Low

PHOTOS & DESCRIPTOR

Site 17: Partially fenced Yate-Flooded Gum remnant native vegetation in degraded to good condition.

Site 17: Unfenced degraded section of Yate-Flooded Gum remnant native vegetation.

Site 17: The fenceline around the remnant native vegetation would benefit from some measures to strengthen it.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Unfenced in some areas. Fair condition fencing in other areas.
Remnant vegetation is only partially fenced with fair condition fencing in most areas but strengthening in some areas would be beneficial.

Vegetation condition: Degraded (2) to Good (3)

Habitat values:

- The occurrence of mature trees provides valuable habitat for fauna
- Good recruitment of young Eucalypts in the cleared area was observed
- Young River provides a diversity of habitat niches for flora and fauna

<u>Management recommendations:</u>

- Retain and protect remnant native vegetation
- Strengthen fence in some areas
- Maintain fences in stock-proof condition

SITE 18			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	866-867	**Connectivity to other vegetation** (Y/N)	N – close proximity to Site 24

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Jarrah-Marri-Wandoo Forest	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X	X	
Lower	X					X	
Ground	X					X	

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	No					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus marginata (Jarrah), *Eucalyptus wandoo* (Wandoo), *Corymbia calophylla* (Marri), *Leptospermopsis erubescens* (Roadside Teatree), *Bossiaea linophylla, Bossiaea eriocarpa* (Common Brown Pea), *Gastrolobium praemorsum, Billardiera heterophylla* (Kummuck/Australian Bluebell), *Leucopogon obovatus* subsp. *revolutus, Sowerbaea laxiflora* (Purple Tassels).

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
18	3.1 ha/773 m	Jarrah-Marri-Wandoo forest	4 - Very good	Low

PHOTOS & DESCRIPTOR

Site 18: Fencing good despite some areas that have overgrown it.

Site 18: This Jarrah-Marri-Wandoo remnant native vegetation was assessed as being in very good condition.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Good.
Remnant vegetation is fully fenced with good condition fencing, although the vegetation is growing over the fence in some areas.

Vegetation condition: Very good (4)

Habitat values:

- Very good condition marri-jarrah-wandoo native remnant vegetation with a diverse understorey of shrubs, sedges, rushes and grasses provides a rich variety of food, shelter and habitat for fauna

Management recommendation:

- Retain and protect remnant native vegetation
- Maintain fences in stock-proof condition
- Prune overhanging branches and vegetation affecting the integrity of the fence

SITE 19			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	836-852; 855-856	**Connectivity to other vegetation** (Y/N)	Y – neighbouring property, close 19proximity to Site 22 & 24

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Jarrah-Marri-Wandoo Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X		
Lower	X					X	
Ground	X					X	

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	Yes – an ephemeral creekline running into Slate Quarry Creek (tributary)					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - minimal
	Salinity	Y – lower	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus marginata (Jarrah), *Eucalyptus wandoo* (Wandoo), *Corymbia calophylla* (Marri), *Nuytsia floribunda* (Moodjar/WA Christmas Tree), *Leptospermopsis erubescens* (Roadside Teatree), *Patersonia occidentalis* (Purple Flag), *Melaleuca ?thymoides/aurea, Hakea prostrata* (Harsh Hakea), *Hakea corymbosa* (Cauliflower Hakea), *Xanthorrhoea platyphylla, Agonis theiformis, Kunzea recurva* (Mountain Kunzea), *Banksia dallanneyi* (Couch Honeypot), *Hibbertia subvaginata, Billardiera heterophylla, Boronia spathulata, Lagenophora huegelii* (Native Gerbera), *Leucopogon ?capitellatus, Bossiaea eriocarpa* (Common Brown Pea), *Calothamnus species, Chamaescilla corymbosa* (Blue Squill), *Rhodanthe citrina*

Weed species: *Ursinia anthemoides* (Ursinia)

FAUNA SPECIES

Grey Currawong, Emu

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
19	49.9 ha/3,195 m	Jarrah-Wandoo woodland	4 – Very good	Very high

PHOTOS & DESCRIPTOR

Site 19: Northern boundary.

Site 19: View to the Stirling Ranges to the west with *Nuytsia floribunda* (WA Christmas Tree) in the foreground known as 'moodjar' to the Noongar people, a very spiritually significant tree.

Survey team with land lessee, Trevor Pollard, discussing the land capacity in that area, the current uses, history of the area and fire.

Site 19 (right) and Site 22 (left) and the track between them.

Site 19 (adjacent): Some dead and dying 'moodjar' trees suspected of succumbing to last year's drought and heatwave conditions and/or not getting enough sustenance from their host trees as they are hemi-

Site 19:A good area of fencing around this very good condition remnant native vegetation.

parasitic. They are able to sever host roots and penetrate the tissue to extract water and nutrients up to 110 metres away.	
 **Site 19: Unfortunate evidence of the occurrence of emus within the remnant native vegetation.**	 **Site 19: *Xanthorrhoea platyphylla* known as 'baarl' to the Noongar people occurs within the remnant native vegetation.**
 **Site 19: Wallaby gate along the fenceline into Wandoo woodland remnant native vegetation.**	 **Site 19: A 49.9-hectare area of Jarrah-Wandoo woodland remnant native vegetation.**
 **Site 19: Eastern edge of the remnant native vegetation with mature Wandoo (*Eucalyptus wandoo*) trees.**	 **Site 19: Some vegetation has fallen over the fence affecting its integrity in this area.**

Site 19: The effects of salinity can be seen here within the Young River that traverses the property, eventually flowing into the Kalgan River.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Vegetation condition: Fenced

Remnant vegetation is fully fenced with good condition fencing in most areas but strengthening in some areas would be beneficial. Adjacent to proposed restoration and revegetation area (part of Mengler's Paddock).

Habitat values:

- High biodiversity due to species richness
- Good dense understorey provide cover for fauna
- Wallaby gate for access to and from the remnant vegetation
- Creekline habitat with fringing remnant native vegetation
- Potential to be connected to other remnant vegetation through restoration and revegetation project

Management recommendations:

- Retain and protect remnant native vegetation
- Strengthen fencing in weaker areas
- Maintain fences in stock-proof condition

ADJACENT TO PROJECT 1 – VERY HIGH PRIORITY (see Proposed Restoration and Revegetation Project)

SITE 20			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	834; 838	**Connectivity to other vegetation** (Y/N)	N – close proximity to Site 21 & 22

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X		
Lower	X				X		
Ground	X					X - weedy	

Land Formation Cross box	Level	X	Gentle	X	Moderate	
	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	No, but close and upslope from Site 22 (Slate Quarry Creek)					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - understorey
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus decipiens (Moit/Redheart), *Corymbia calophylla* (Marri), *Eucalyptus wandoo* (Wandoo), *Eucalyptus marginata* (Jarrah), *Nuytsia floribunda* (Moodjar/WA Christmas Tree), *Xanthorrhoea platyphylla, Juncus pallidus* (Pale Rush), *Banksia armata (Prickly Dryandra), Hakea lissocarpha* (Honey Bush).

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
20	3.5 ha/719 m	Jarrah-Marri-Moit-Yate woodland	2 - Degraded	Low

PHOTOS & DESCRIPTOR

Site 20: Unfenced remnant native vegetation in degraded condition.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Unfenced
Adjacent to proposed restoration and revegetation area (part of Mengler's Paddock).

Vegetation condition: Degraded (2)

Habitat values:
Mature trees provide valuable habitat, shelter and food for fauna.

Management recommendation:

- Retain and protect remnant native vegetation

ADJACENT TO PROJECT 1 – VERY HIGH PRIORITY (see Proposed Restoration and Revegetation Project)

SITE 21			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	833; 835	**Connectivity to other vegetation** (Y/N)	N – close proximity to Site 20 & 22

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Jarrah-Marri-Wandoo Forest	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X sub-canopy		
Lower							
Ground	X					X - weeds	

Land Formation	Level		Gentle		Moderate	X
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	No					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	Y	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - understorey
	Salinity	Possible adjacent	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES
Eucalyptus marginata (Jarrah), *Corymbia calophylla* (Marri), *Eucalyptus wandoo* (Wandoo), *Hakea sp.*

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
21	1.3 ha/545 m	Jarrah-Marri-Wandoo forest	1 - Very degraded	Low

PHOTOS & DESCRIPTOR

Site 21: Unfenced 1.3-hectare Jarrah-Marri-Wandoo remnant native vegetation in very degraded condition.

Site 21: Despite the degraded condition of the remnant native vegetation, there are numerous mature trees which offer valuable habitat for fauna.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Unfenced
Adjacent to proposed restoration and revegetation area (part of Mengler's Paddock).

Vegetation condition: Very degraded (1)

Habitat values:
Numerous mature trees offer good habitat values with small and medium-sized hollows for fauna that need them.

Management recommendation:

- Retain and protect remnant native vegetation

ADJACENT TO PROJECT 1 – VERY HIGH PRIORITY (see Proposed Restoration and Revegetation Project)

SITE 22			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	820-832; 849-850 (wallaby gate)	**Connectivity to other vegetation** (Y/N)	Y – Stirling Range National Park (via Slate Quarry Creek) & very close 27proximity to Site 19

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X		
Lower	X				X	X	
Ground	X					X - weedy	

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)						

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	Y	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - understorey
	Salinity	Y	Dieback disease	Unsure		
Other notes	Some *Banksia grandis* (Bull Banksia) were in decline.					

FLORA - DOMINANT SPECIES

Eucalyptus cornuta (Yate), *Eucalyptus marginata* (Jarrah), *Nuytsia floribunda* (Moodjar/WA Christmas Tree), Banksia grandis (Bull Banksia), *Hakea prostrata* (Harsh Hakea), *Bossaiea linophylla*

FAUNA SPECIES

Nankeen Kestrel, Australian Raven.

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
22	11.4 ha/3,878 m	Yate woodland Jarrah woodland	3 – Good to 4 – Very good	Very High

PHOTOS & DESCRIPTOR

Site 22: Slate Quarry Creek runs though this remnant native vegetation.

Site 22: Very good condition Yate (*Eucalyptus cornuta*) woodland remnant native vegetation.

Site 22: The majority of the remnant native vegetation is fenced.

Site 22: Slate Quarry Creek unfenced within this part of the site.

Site 22: Slate Quarry Creek fenced within this Yate (*Eucalyptus cornuta)* remnant native vegetation.

Site 22: Slate Quarry Creek with fringing remnant native vegetation.

Site 22: View to the Stirling Ranges to the west from Slate Quarry Farm.

Site 22: Wallaby gate installed along the fenceline.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Only partially fenced
Recommend fencing to fully protect remnant native vegetation. Part of proposed restoration and revegetation area (part of Mengler's Paddock).

Vegetation condition: Good (3) to Very Good (4)

Habitat values:

- Structural diversity of vegetation layers and multiple aged trees
- Habitat logs and branches on ground provide valuable habitat
- Good recruitment of Eucalypt tree species observed
- Good medium to large sized hollows in trees for hollow-dependent fauna
- Slate Quarry Creek runs through the site and is buffered by the fringing native remnant vegetation

Management recommendations:

- Retain and protect remnant native vegetation
- Strengthen fencing in weaker areas
- Maintain fences in stock-proof condition

PROJECT 1 – VERY HIGH PRIORITY (see Proposed Restoration and Revegetation Project)

SITE 23			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	809-817	**Connectivity to other vegetation** (Y/N)	Y – Stirling Range National Park

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X		
Lower	X				X		
Ground	X					X	

Land Formation Cross box	Level		Gentle		Moderate	
	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)						

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus wandoo (Wandoo), *Eucalyptus decipiens* (Moit/Redheart), *Hakea corymbosa* (Cauliflower Hakea), *Leptospermopsis erubescens* (Roadside Teatree), *Bossiaea linophylla, Muehlenbeckia adpressa* (Climbing Lignum), *Mesomelaena stygia, Billardiera heterophylla* (Kummuck/Australian Bluebell), *Hypocalymma angustifolium* (White Myrtle), *Melaleuca ?pentagon/scabra, Conostylis species, Banksia dallanneyi* (Couch Honeypot), *Carpobrotus modestus* (Inland Pigface), *Rhodanthe citrina, Gastrolobium species* (whorled leaves), *Austrostipa ?mollis* (native grass), *Stylidium sp.* (long large leaf).
Weed species: *Disa bracteata* (South African Orchid)

FAUNA SPECIES

Emus (approximately 8)

SITE NO.	**AREA (hectares) PERIMETER (metres)**	**VEGETATION TYPE**	**VEGETATION CONDITION** 1-VERY DEGRADED TO 5-EXCELLENT	**PRIORITY FOR MANAGEMENT** LOW, MEDIUM, HIGH, VERY HIGH
23	24.4 ha/2,177 m	Wandoo woodland (potential threatened ecological community) Moit woodland	3 - Good to 4 - Very good	Very High

PHOTOS & DESCRIPTOR

Site 23: Remnant vegetation is fully fenced with good condition fencing in most areas but could do with strengthening in some areas.

Site 23: Bill Thompson checking out the Wandoo woodland remnant native vegetation.

Site 23: Survey team examine a native *Austrostipa species*, a native grass found within the remnant native vegetation.

Site 23: Checking for tracks and scats around the wallaby gate installed along numerous fencelines within the property and on the western boundary shared with the Stirling Range National Park.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Fair – Good condition.
Remnant vegetation is fully fenced with good condition fencing in most areas but strengthening in some areas would be beneficial.

Vegetation condition: Good (3) – Very Good (4)

Habitat values:

- Structural diversity of vegetation layers and multiple aged trees
- Habitat logs and branches on ground provide valuable habitat
- Good recruitment of Eucalypt tree species observed
- Good medium to large sized hollows in trees for hollow-dependent fauna

Management recommendation:

- Retain and protect remnant native vegetation
- Strengthen fencing in weaker areas
- Maintain fences in stock-proof condition

SITE 24A, 24B, 24C, 24D			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	798; 805-808	**Connectivity to other vegetation** (Y/N)	Y – Site 26

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X		
Lower	X				X	X	
Ground	X					X	

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep	X	Very steep		Precipitous	
Wetlands/creek present? (describe)	Yes, Slate Quarry Creek.					

Disturbance/Threats Y/N						
	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus cornuta (Yate), *Corymbia calophylla* (Marri), *Eucalyptus marginata* (Jarrah), *Eucalyptus wandoo* (Wandoo), *Eucalyptus decipiens* (Moit/Redheart), *Allocasuarina huegeliana* (Rock Sheoak), *Acacia saligna* (Orange Wattle), *Leptospermopsis erubescens* (Roadside Teatree), *Bossiaea linophylla, Bossiaea eriocarpa* (Common Brown Pea), *Gastrolobium praemorsum, Hakea sp., Calothamnus species, Billardiera heterophylla* (Kummuck/Australian Blubell), *Tetratheca virgata, Hypocalymma angustifolium* (White Myrtle), *Juncus pallidus* (Pale Rush), native sedges
Weed species: *Asparagus asparagoides* (Bridal Creeper)

FAUNA SPECIES

Regent Parrot, Australian Magpie

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
24A, 24B, 24C, 24D & 24E	24A – 3.7 ha/805 m 24B - 13.7 ha/1,712 m 24C – 11.7 ha/1,440 m 24D – 30.3 ha/2,397 m 24E – 4.9 ha/2,305 m	Jarrah-Marri-Wandoo woodland Yate woodland Jarrah-Moit/Redheart woodland	24A – 2 - Degraded 24B - 4 - Very good 24C – 3 - Good 24D – 3 - Good 24E – 2 - Degraded to 3 - Good	24A - Low 24B - Very high 24C - High 24D - Very high 24E – Low

PHOTOS & DESCRIPTOR

Site 24B: Very good condition remnant native vegetation with diverse intact understorey.

Site 24B: A 13.7 hectare area of remnant native vegetation with direct connectivity to other remnants.

Site 24B: Very good condition remnant vegetation with diverse intact understorey and good fencing.

Site 24B: Some excellent Wandoo, Jarrah and Marri habitat trees with medium and large hollows occur within this remnant vegetation as well as stag (dead) trees which are also important habitat features.

Site 24B: This wallaby gate was installed several years ago for the Western Brush Wallaby, also known as Black-gloved Wallaby or 'kwoor' to the Noongar people. This one doesn't look utilised

Site 24D: The Stirling Ranges can be seen in the background.

(no tracks or scats found), although others installed on the property were seen to be getting good use.	
 **Site 24D: The remant native vegetation is fringing the Slate Quarry Creek that traverses through the property and flows into the Young River which flows into the Kalgan River.**	 **Site 24D: Fencing is in good condition around this area of the remnant vegetation.**
 **Site 24D: Fencing in this area is in good stock-proof condition.**	 **Site 24D: Tree over fenceline.**

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY
Fencing: Fair – Good condition. Remnant vegetation is fully fenced with good condition fencing in most areas but strengthening in some areas would be beneficial. **Vegetation condition:** Degraded (2) to Very Good (4) **Habitat values:** ➢ Evidence of the presence of the Western Brush Wallaby (Priority 4 fauna) was observed near the wallaby gate **<u>Management recommendation:</u>** ➢ Retain and protect remnant native vegetation ➢ Strengthen fencing in weaker areas ➢ Maintain fences in stock-proof condition

SITE 25A, 25B, 25C & 25D

Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	775-779; 797; 871-872; 875	**Connectivity to other vegetation** (Y/N)	N

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Jarrah-Marri-Wandoo Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X		
Lower	X					X	
Ground	X					X	

Land Formation	Level		Gentle	X	Moderate	
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	No					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N – 22 years	Weeds	Minimal
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus marginata (Jarrah), *Corymbia calophylla* (Marri), *Eucalyptus wandoo* (Wandoo), *Banksia attenuata* (Slender Banksia/Candle Banksia), *Banksia grandis* (Bull Banksia), *Banksia sessilis* (Parrot Bush), *Banksia armata* (Prickly Dryandra), *Nuytsia floribunda* (Moodjar/WA Christmas Tree), *Acacia saligna* (Orange Wattle), *Xanthorrhoea platyphylla* (Baarl), *Agonis theiformis, Adenanthos cuneatus* (Coastal Jugflower)*, Adenanthos obovatus* (Basket Bush), *Jacksonia species, Billardiera heterophylla* (Kummuck/Australian Bluebell), *Melaleuca thymoides, Hypocalymma angustifolium* (White Myrtle), *Leucopogon sp., Hakea lissocarpha* (Honey Bush), *Hakea trifurcata* (Twoleaf Hakea), *Hakea undulata* (Wavy Hakea), *Hemiandra pungens* (Snakebush), *Hibbertia subvaginata, Leucopogon obovatus* subsp. *revolutus*, *Allocasuarina ?thuyoides/humilis, Gompholobium sp. Drosera sp.,* native sedges.
Weed species: *Asparagus asparagoides* (Bridal Creeper) growing on *Nuytsia floribunda* (Moodjar/WA Christmas Tree)

FAUNA SPECIES

Western Grey Kangaroo, Emu, Australian Magpie, Western Ringneck (28), Rabbit

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
25A, 25B, 25C & 25D	25A – 0.2 ha/225 m 25B – 4.8 ha/969 m 25C – 59.7 ha/3,565 m 25D – 59.6 ha/3,434 m	Jarrah-Marri-Wandoo woodland Banksia woodland	1 – Very degraded to 4 - Very good	25A - Low 25B - Low 25C - Low 25D - High

PHOTOS & DESCRIPTOR

Site 25D: Jarrah woodland with myrtaceous *Melaleuca thymoides* understorey.

Site 25D: Banksia woodland (*Banksia attenuata*) remnant native vegetation in very good condition.

Site 25C: Part of the southern end of this site is unfenced and in very degraded condition.

Site 25C: Part of the southern end of this site is unfenced, although the mature trees still offer valuable habitat.

Site 25C: Banksia woodland (*Banksia attenuata*) remnant native vegetation is a valuable area for fauna such as the 'endangered' Carnaby's Cockatoo that breed in nearby areas.

Site 25C: Weed of National Significance, *Asparagus asparagoides* (Bridal Creeper) occurs within the remnant vegetation climbing up *Nuytsia floribunda* (Moodjar/WA Christmas Tree).

Site 25C: Going for a closer look to photograph and document Long Leaved Cone Bush (*Petrophile longifolia*) occurring in the remnant native vegetation.

Site 25C: Long Leaved Cone Bush (*Petrophile longifolia*)

Site 25C: There are fenced and unfenced areas around Site 25C.

Site 25C: Area to the left is unfenced and assessed as being in very degraded condition.

Site 25C: Unfenced section of the Jarrah-Marri-Wandoo remnant native vegetation.

Site 25C: Wallaby gate installed along the fenceline shows evidence of use by the Western Brush Wallaby.

Site 25C: Survey team check the wallaby gate for use by Western Brush Wallaby.

Site 25C: Pointing out a Western Brush Wallaby scat right beside the wallaby gate.

Site 25C: Western Brush Wallaby (*Notamacropus irma*) scats occurring within this remnant native vegetation just beside the wallaby gate.

Site 25C: The survey team are very happy with the Western Brush Wallaby's presence and use of the wallaby gate.

Site 25D: Bill Thompson checking out the fencing.

Site 25D: Jane Thompson amongst *Melaleuca thymoides* in Jarrah woodland remnant native vegetation.

Site 25D: Jarrah woodland with Moodjar/WA Christmas Tree (*Nuytsia floribunda*) and *Melaleuca thymoides* understorey.

Site 25D: Fencing could benefit from some strengthening in this area.

Site 25D: Numerous mature trees offer good habitat values with small, medium and potentially large-sized hollows for fauna.

Site 25D: Jarrah-Marri-Wandoo woodland remnant native vegetation.

Site 25D: Jarrah (*Eucalyptus marginata*) Woodland to Low Open Woodland over *Banksia armata* Low Shrubland.

Site 25D: Some strengthening of the fencing in this area would be beneficial.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Unfenced in some areas. Fair condition fencing in other areas.
Remnant vegetation is only partially fenced with fair condition fencing in most areas but strengthening in some areas would be beneficial.

Vegetation condition:
Fenced area - Good (3) – Very Good (4)
Unfenced area - Degraded (2)

Habitat values:

- Numerous mature trees offer good habitat values with small and medium-sized hollows for fauna that need them
- Banksia woodland provides a good source of food for fauna that rely on nectar sources and the fruits can be eaten by Black-cockatoos

Management recommendations:

- Retain and protect remnant native vegetation
- Strengthen fencing in weaker areas
- Maintain fences in stock-proof condition

SITE 26A & 26B			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	799-801	**Connectivity to other vegetation** (Y/N)	Y – Site 24

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X					X	
Lower	X				X		
Ground	X					X - weeds	

Land Formation Cross box	Level		Gentle	X	Moderate	X
	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	Yes, Slate Quarry Creek					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	N	Flooding	possible
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - understorey
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus cornuta (Yate), *Corymbia calophylla* (Marri), *Melaleuca rhaphiophylla* (Freshwater Paperbark), *Allocasuarina huegeliana* (Rock Sheoak), *Acacia saligna* (Orange Wattle), *Billardiera heterophylla* (Kummuck/Australian Bluebell).
Weed species: *Asparagus asparagoides* (Bridal Creeper)

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
26A & 26B	26A – 1.4 ha/489 m 26B – 5.6 ha/1,767 m	Yate-Melaleuca woodland	3 - Good	26A – Low 26B – High

PHOTOS & DESCRIPTOR

Site 26A: Some strengthening of the fencing in this area would be beneficial.

Site 26A: Assessing ecological values of the remnant vegetation.

Site 26B: This area of fencing would also benefit from some strengthening.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Fair to good condition.
Remnant vegetation is fully fenced with good condition fencing in most areas but strengthening in some areas would be beneficial.

Vegetation condition: Good (3)

Habitat values:

- Structural diversity of vegetation layers and multiple aged trees
- Habitat logs and branches on ground provide valuable habitat
- Good recruitment of Eucalypt tree species observed
- Good medium to large sized hollows in trees for hollow-dependent fauna
- Slate Quarry Creek runs through the site and is buffered by the fringing native remnant vegetation

Management recommendations:

- Retain and protect remnant native vegetation
- Strengthen fencing in weaker areas
- Maintain fences in stock-proof condition

SITE 27			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	877; 889	**Connectivity to other vegetation** (Y/N)	N

Remnant Vegetation	Y	Y/N	**Coordinates**		E
Restoration/Revegetation	N		**Zone: 50**		N

Site Vegetation							
Cross box	Jarrah-Marri-Wandoo Forest	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X				X	X	
Lower							
Ground	X					X - weeds	

Land Formation	Level		Gentle		Moderate	
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	No					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	Y	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - understorey
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus marginata (Jarrah), *Eucalyptus wandoo* (Wandoo), *Corymbia calophylla* (Marri)

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
27	1.3 ha/560 m	Jarrah-Marri-Wandoo forest	1 – Very degraded	Low

PHOTOS & DESCRIPTOR

Site 27: Unfenced 1.3-hectare area of Jarrah-Marri-Wandoo forest assessed as being in very degraded condition.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Unfenced

Vegetation condition: Very degraded (1)

Habitat values:

- Mature Jarrah, Marri and Wandoo trees provide good habitat for fauna, particularly for Black-cockatoos as a roosting or perching site near the dam and creekline.

Management recommendation:

Retain and protect remnant native vegetation

SITE 28A & 28B			
Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	881-883; 884-887; 890	**Connectivity to other vegetation** (Y/N)	Y – neighbouring conservation property, Mondurup View

Remnant Vegetation	Y	Y/N	**Coordinates**	E
Restoration/Revegetation	N		**Zone: 50**	N

Site Vegetation							
Cross box	Yate Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper	X				X		
Mid	X					X	
Lower	X					X	
Ground	X					X	

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	Yes, Young River, eventually runs into the Kalgan River.					

Disturbance/Threats Y/N						
	Animal paths	Y	Stock grazing	N	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES

Eucalyptus cornuta (Yate), *Corymbia calophylla* (Marri), *Allocasuarina huegeliana* (Rock Sheoak), *Leptospermopsis erubescens* (Roadside Teatree), *Billardiera heterophylla* (Kummuck/Australian Bluebell), *Thomasia ?foliosa, Stackhousia monogyna* (White Candles).
Weed species: *Asparagus asparagoides* (Bridal Creeper), *Disa bracteata* (South African Orchid), *Ehrharta calycina* (Perennial Veldt Grass)

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
28A & 28B	28A – 10.1 ha/2,785 m 28B – 9.3 ha/2,718 m	Yate woodland	3 - Good	28A – Low 28B - Medium

PHOTOS & DESCRIPTOR

Site 28A: A 10.1-hectare area of remnant native vegetation in good condition provides a buffer to the Young River and is directly connected to Site 28B.

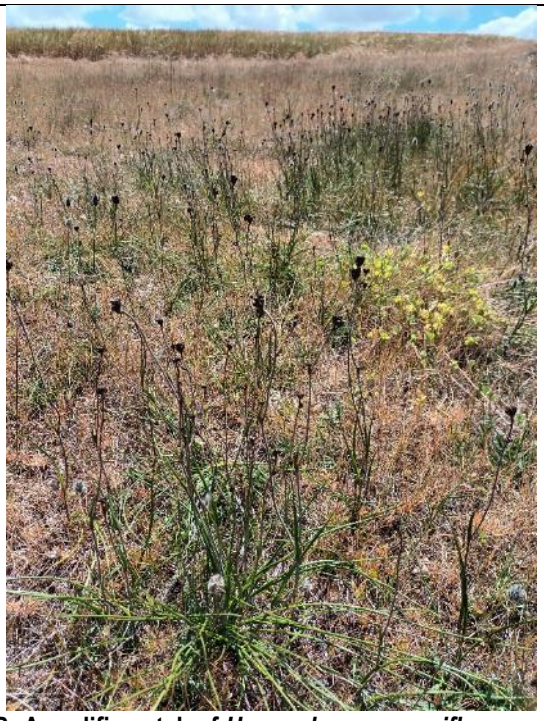
Site 28B: A 9.3-hectare area of remnant native vegetation in good condition bordering the Young River is connected to Site 28A.

Site 28B: Fencing is in good condition, although some strengthening would be beneficial. Recruitment of young Eucalypts in the cleared area was observed.

Site 28B: Jane and Melissa discussing the dominant flora species of the site.

Site 28B: A drainage line running into the site from the farmland would be a good area for planting to mitigate the impacts of erosion and salinity into Young River.

Site 28B: View to the south of Slate Quarry Farm.



Site 28B: A prolific patch of *Haemodorum sparsiflorum* (Bloodroot) known as 'mardja' to the Noongar people is an important bush tucker plant.

Site 28B: *Haemodorum sparsiflorum* (Mardja).

Adjacent to Site 28B: "Mondurup View", a private conservation property on the southern boundary of Slate Quarry Farm.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Fair to Good condition.
Remnant vegetation is fully fenced with good condition fencing in most areas but strengthening in some areas would be beneficial. The upper stretches of fencing are in good stock-proof condition.

Vegetation condition: Good (3)

Habitat values:

- The occurrence of mature trees provides valuable habitat for fauna
- Good recruitment of young Eucalypts in the cleared area was observed
- Young River provides a diversity of habitat niches for flora and fauna
- Direct connectivity to a private conservation reserve to the east, "Mondurup View" provides a valuable wildlife corridor

<u>Management recommendations:</u>

- Retain and protect remnant native vegetation
- Strengthen fence in some areas
- Maintain fences in stock-proof condition

PROJECT 2 – MEDIUM PRIORITY

A drainage line running into Site 28B from the farmland would be a good area for planting *Allocasuarina huegeliana* (Rock Sheoak) to mitigate the impacts of erosion and salinity into Young River.

PROPOSED RESTORATION AND REVEGETATION PROJECT SITE

Date: 21/10/2024		**Recorder/s:** Melissa Howe, Basil Schur, Jane & Bill Thompson	
Photo numbers	854	**Connectivity to other vegetation** (Y/N)	Proposed

Remnant Vegetation	N	Y/N	**Coordinates**		E
Restoration/Revegetation	Proposed		**Zone: 50**		N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper							
Mid							
Lower							
Ground							

Land Formation	Level		Gentle	X	Moderate	
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)	No					

Disturbance/Threats Y/N	Animal paths	Y	Stock grazing	Y	Flooding	N
	Erosion	N	Recent fire (<5 yrs)	N	Weeds	Y - paddock
	Salinity	N	Dieback disease	Not evident		
Other notes						

FLORA - DOMINANT SPECIES
To be advised

FAUNA SPECIES

SITE NO.	AREA (hectares) PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION 1-VERY DEGRADED TO 5-EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
Proposed Restoration & Revegetation	20.5 ha/923 m	Part of Menglers Paddock	N/A	Very high

PHOTOS & DESCRIPTOR

Site proposed for a restoration and revegetation project.

View to the Stirling Ranges to the west from the restoration and revegetation proposal site.

Adjacent to Site 19: Survey team have a yarn in the area proposed for restoration and revegetation.

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Fencing: Surrounding fences exist around remnant native vegetation.

Vegetation condition: N/A - Paddock

Management recommendations:

- Retain and protect remnant native vegetation
- Maintain fences in stock-proof condition

PROJECT 1 – VERY HIGH PRIORITY

27.7-hectares proposed restoration & revegetation projects and **2,135** metres of fencing to enhance native remnant vegetation.

9. NATIVE REMNANT VEGETATION CONSERVATION PROJECT PROPOSAL

This survey has identified one area adjacent to native remnant vegetation on the property that is recommended for restoration and revegetation projects to maintain and enhance the integrity and condition of these areas and improve habitat connectivity to the Stirling Range National Park. This remnant vegetation area is worthy of protective conservation management, particularly because some of the remnant vegetation surveyed was assessed as being in very good ecological condition and with very high biodiversity and habitat values for native fauna, including some threatened fauna species, including the 'endangered' Carnaby's cockatoo and the Priority 4-listed species, Western Brush Wallaby. Other remnant vegetation areas were identified as having good regenerative capacity to naturally regenerate and improve their vegetation condition with the ongoing maintenance and strengthening of fencelines to keep stock excluded.

This remnant vegetation area has also been identified as a very high priority for protection as it forms part of an important ecological linkage within the Forest to Stirlings section of Gondwana Link. Areas of connected vegetation provides for the movement of many species of native fauna across the landscape, thus preventing loss of biodiversity in conservation reserves and other remnant vegetation connected to these ecological links.

One project proposal for remnant vegetation protection and conservation restoration works are proposed in this section, totalling 27.7-hectares with 2,135 metres of fencing. This option is set out in the Table and Map below.

TABLE 1: PROPOSED RESTORATION & REVEGETATION PROJECT FOR NATIVE REMNANT VEGETATION CONSERVATION

PROJECT PROPOSAL	AREA OF CONSERVATION	PROJECT SUMMARY	PRIORITY RATING
PROJECT 1 **Menglers Paddock** **Adjacent to Sites 19, 20, 21 & 22**	**27.7-**hectares in total made up of an area of 20.5-hectares and 7.2-hectares.	**Project 1: 27.7-**hectares proposed restoration & revegetation projects and **2,135** metres of fencing to enhance native remnant vegetation	**VERY HIGH**

PROJECT 1: PROPOSED RESTORATION & REVEGETATION & FENCING PROJECTS FOR REMNANT NATIVE VEGETATION CONSERVATION

PROJECT 1: 27.7-hectares proposed restoration & revegetation project and 2,135 metres of fencing to buffer and enhance existing remnant native vegetation and the Slate Quarry Creek.

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11. APPENDICES

APPENDIX 1: VEGETATION CONDITION SCALE

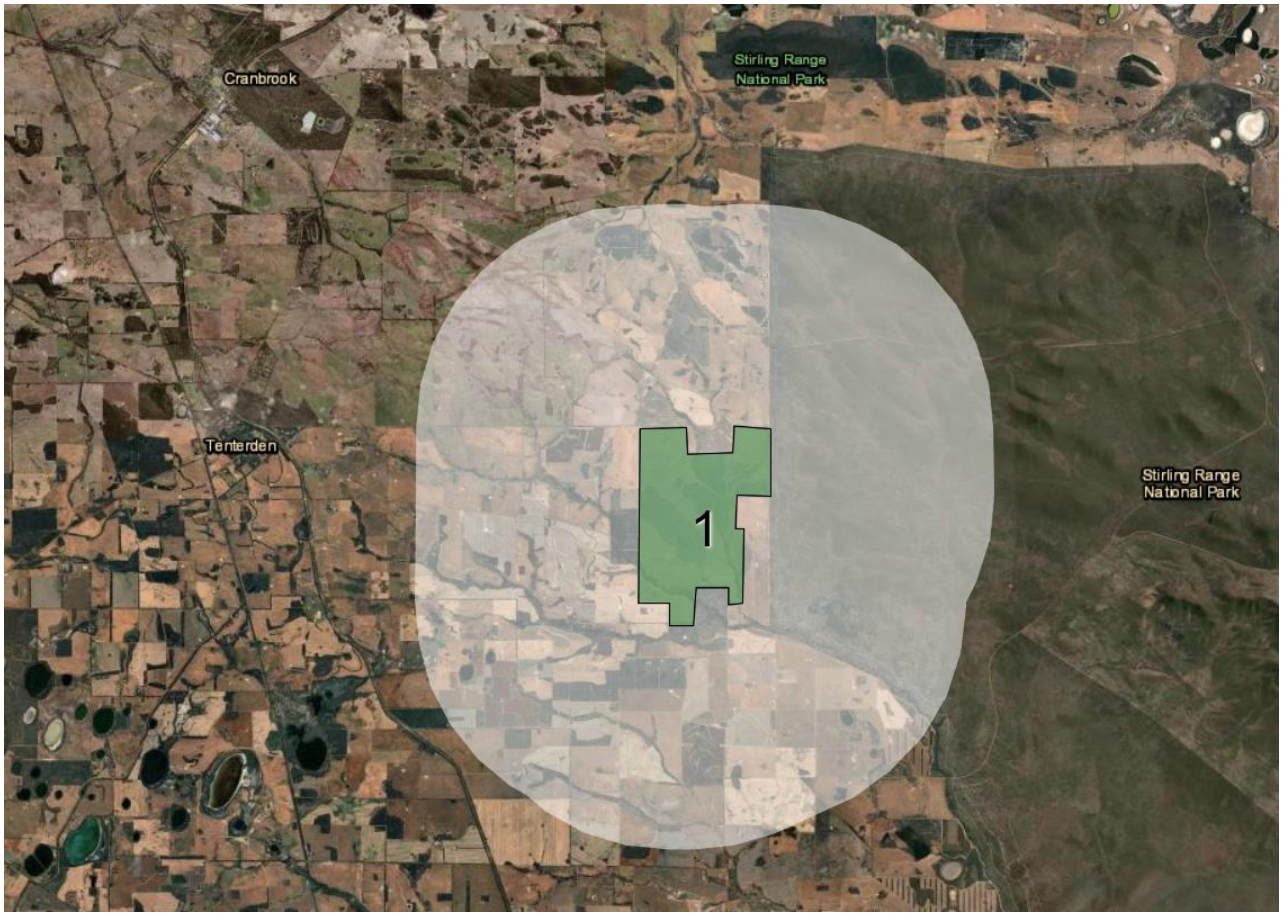
VERY DEGRADED - 1	DEGRADED - 2	GOOD - 3	VERY GOOD - 4	EXCELLENT - 5
The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires; the presence of very aggressive weeds; partial clearing; dieback; & grazing.	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires; the presence of some very aggressive weeds at high density; partial clearing; dieback; & grazing.	Vegetation structure altered; obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires; the presence of some more aggressive weeds; dieback; logging; & grazing.	Vegetation structure intact; disturbance affecting individual species; weeds are non-aggressive species.

Note: Condition scale adapted from Keighery Condition Scale *(Keighery, 1994 and Casson et al., 2009).*

Five central scores are mainly used from "VERY DEGRADED" (1) to "EXCELLENT" (5). At either side of these could be "ALIENATED" (A) and "PRISTINE" (P). In general, it is unlikely that "A" will apply because it refers to the built environment or land that is under agriculture or horticulture, which lacks any native plants and most other native organisms. In general, it is likely that "P" will not commonly be used because there are very few places that have not been subject to feral animal grazing (rabbits, camels, goats, etc) or that have remained unaffected by exacerbated wind-borne dust deposition, or emissions *(Casson et al., 2009).*

***Nuytsia floribunda* (WA Christmas Tree/Moodjar) with infestation of invasive weed species Bridal Creeper (*Asparagus asparagoides*), a Weed of National Significance.**
Photo: Basil Schur, October 2024.

APPENDIX 2: MAP OF PROTECTED MATTERS SEARCH AREA – 5 KM BUFFER



APPENDIX 3: PROTECTED MATTERS SEARCH REPORT – 5 KM BUFFER

LISTED THREATENED SPECIES										
SCIENTIFIC NAME	COMMON NAME	CLASS	SIMPLE PRESENCE	PRESENCE TEXT	THREATENED CATEGORY	MIGRATORY STATUS	MIGRATORY CATEGORY	MARINE STATUS	CETACEAN STATUS	BUFFER STATUS
Darwinia collina	Yellow Mountain Bell	Plant	May	Species or species habitat may occur within area	Critically Endangered					In feature area
Banksia anatona	Cactus Dryandra	Plant	Known	Species or species habitat known to occur within area	Critically Endangered					In feature area
Daviesia pseudaphylla	Stirling Range Daviesia	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered					In feature area
Lambertia fairallii	Fairall's Honeysuckle	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered					In feature area

LISTED THREATENED SPECIES										
SCIENTIFIC NAME	COMMON NAME	CLASS	SIMPLE PRESENCE	PRESENCE TEXT	THREATENED CATEGORY	MIGRATORY STATUS	MIGRATORY CATEGORY	MARINE STATUS	CETACEAN STATUS	BUFFER STATUS
Acacia prismifolia	Diels' Wattle	Plant	May	Species or species habitat may occur within area	Critically Endangered					In buffer area only
Calidris ferruginea	Curlew Sandpiper	Bird	May	Species or species habitat may occur within area	Critically Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In feature area
Leucopogon gnaphalioides	Stirling Range Beard Heath	Plant	May	Species or species habitat may occur within area	Critically Endangered					In feature area
Banksia brownii	Brown's Banksia, Feather-leaved Banksia	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered					In feature area
Hibbertia wheelerae	Wheeler's Buttercup	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered					In feature area
Latrobea colophon	null	Plant	May	Species or species habitat may occur within area	Critically Endangered (listed as Latrobea colophona)					In buffer area only
Conostylis misera	Grass Conostylis	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Deyeuxia drummondii	Drummond's Grass, Drummond Grass	Plant	May	Species or species habitat may occur within area	Endangered					In buffer area only
Daviesia obovata	Paddle-leaf Daviesia	Plant	May	Species or species habitat may occur within area	Endangered					In feature area
Gastrolobium humile	null	Plant	Known	Species or species habitat known to occur within area	Endangered					In feature area
Drakaea confluens	Late Hammer-orchid	Plant	Known	Species or species habitat known to occur within area	Endangered					In feature area
Darwinia wittwerorum	Wittwer's Mountain Bell	Plant	May	Species or species habitat may occur within area	Endangered					In feature area

LISTED THREATENED SPECIES										
SCIENTIFIC NAME	COMMON NAME	CLASS	SIMPLE PRESENCE	PRESENCE TEXT	THREATENED CATEGORY	MIGRATORY STATUS	MIGRATORY CATEGORY	MARINE STATUS	CETACEAN STATUS	BUFFER STATUS
Parantechinus apicalis	Dibbler	Mammal	Known	Translocated population known to occur within area	Endangered					In feature area
Banksia pseudoplumosa	False Plumed-Banksia	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Caladenia dorrienii	Cossack Spider-orchid	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Tringa nebularia	Common Greenshank, Greenshank	Bird	May	Species or species habitat may occur within area	Endangered	Migratory	Migratory Wetlands Species	Listed - overfly marine area		In buffer area only
Sphenotoma drummondii	Mountain Paper-heath	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Darwinia oxylepis	Gillam's Bell	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In feature area
Banksia rufa subsp. pumila	null	Plant	Likely	Species or species habitat likely to occur within area	Endangered					In buffer area only
Botaurus poiciloptilus	Australasian Bittern	Bird	May	Species or species habitat may occur within area	Endangered					In feature area
Myrmecobius fasciatus	Numbat	Mammal	May	Species or species habitat may occur within area	Endangered					In feature area
Zanda baudinii	Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo	Bird	Likely	Species or species habitat likely to occur within area	Endangered (listed as Calyptorhynchus baudinii)					In feature area
Zanda latirostris	Carnaby's Black Cockatoo, Short-billed Black-cockatoo	Bird	Known	Species or species habitat known to occur within area	Endangered (listed as Calyptorhynchus latirostris)					In feature area

LISTED THREATENED SPECIES										
SCIENTIFIC NAME	COMMON NAME	CLASS	SIMPLE PRESENCE	PRESENCE TEXT	THREATENED CATEGORY	MIGRATORY STATUS	MIGRATORY CATEGORY	MARINE STATUS	CETACEAN STATUS	BUFFER STATUS
Verticordia carinata	Stirling Range Featherflower	Plant	May	Species or species habitat may occur within area	Vulnerable					In feature area
Darwinia meeboldii	Cranbrook Bell	Plant	Known	Species or species habitat known to occur within area	Vulnerable					In feature area
Falco hypoleucos	Grey Falcon	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo, Karrak	Bird	May	Species or species habitat may occur within area	Vulnerable					In feature area
Adenanthos pungens subsp. pungens	Spiky Adenanthos	Plant	Known	Species or species habitat known to occur within area	Vulnerable					In feature area
Aphelocephala leucopsis	Southern Whiteface	Bird	May	Species or species habitat may occur within area	Vulnerable					In feature area
Leipoa ocellata	Malleefowl	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Diuris drummondii	Tall Donkey Orchid	Plant	May	Species or species habitat may occur within area	Vulnerable					In buffer area only
Dasyurus geoffroii	Chuditch, Western Quoll	Mammal	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Thelymitra psammophila	Sandplain Sun-orchid	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable					In feature area
Calidris acuminata	Sharp-tailed Sandpiper	Bird	May	Species or species habitat may occur within area	Vulnerable	Migratory	Migratory Wetlands Species	Listed		In feature area

APPENDIX 4: VEGETATION SNAPSHOT SURVEY – 2024 SITE SURVEY SHEET

SITE			
Date:		**Recorder/s:**	
Photo numbers		**Connectivity to other vegetation** (Y/N)	

Remnant Vegetation		Y/N	**Coordinates**		E
Restoration/Revegetation			**Zone: 50**		N

Site Vegetation							
Cross box	Woodland /Forest	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Upper							
Mid							
Lower							
Ground							

Land Formation	Level		Gentle		Moderate	
Cross box	Steep		Very steep		Precipitous	
Wetlands/creek present? (describe)						

Disturbance/Threats Y/N	Animal paths		Stock grazing		Flooding	
	Erosion		Recent fire (<5 yrs)		Weeds	
	Salinity		Dieback disease			
Other notes						

FLORA - DOMINANT SPECIES

FAUNA SPECIES

SITE NO.	**AREA (hectares) PERIMETER (metres)**	**VEGETATION TYPE**	**VEGETATION CONDITION** 1-VERY DEGRADED TO 5-EXCELLENT	**PRIORITY FOR MANAGEMENT** LOW, MEDIUM, HIGH, VERY HIGH

PHOTOS & DESCRIPTOR	

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY