

# Currawong Farm

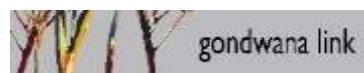
## Bushland Vegetation Snapshot Habitat Survey

Eco-restoration planning as part of Gondwana Link



## September 2019- Draft Report

*This project has been supported Koorabup Trust, Bush Heritage Australia and Gondwana Link Ltd.*



## CURRAWONG — Bushland survey and eco-restoration planning

### ACKNOWLEDGEMENTS

Green Skills gratefully acknowledge the landholders of Currawong, Jeremy and Linda Stefani, as well as Angela Sanders (Bush Heritage Australia Regional Ecologist), Jane Thompson (local landholder and bush enthusiast) for their time, expertise and knowledgeable contribution to these surveys and for their long-term commitment to the conservation and restoration of the Gondwana Link landscape: <http://www.gondwanalink.org/>

*This project has been supported by the Koorabup Trust, Bush Heritage Australia and Gondwana Link Ltd*

This report was prepared by Melissa Howe B.Sc. (Environmental Management) and Basil Schur, Green Skills Project Manger with feedback from Jeremy Stefani, Angela Sanders and Jane Thompson. Maps for the report were prepared by Maren Heckel. Photography from the Survey by Basil Schur.

*Cover Photo: Survey team in Currawong Bushland Remnant #85. This area is regrowth from previously been cleared and is of very high floral species diversity and thus included in proposed fencing projects. Photo by Basil Schur*

# CURRAWONG — Bushland survey and eco-restoration planning

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## INTRODUCTION

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A snapshot survey of remnant vegetation sites on Currawong Farm was undertaken on Monday 9<sup>th</sup> September 2019 by a Survey team to identify, prioritise and recommend future eco-restoration works and management actions to be conducted on the property as part of Green Skills and Gondwana Link Program: <https://greenskills.org.au/> and <http://www.gondwanalink.org/>

The land holders, Jeremy and Linda Stefani are lessees of Currawong. The property address is 1799 Boxwood Hill-Ongerup Road, Monjebup (Lot 1856 on Deposited Plan 209446). The whole property is approximately 988.0032 hectares (9,880,032 m<sup>2</sup>) (Landgate, 2019). The area of property surveyed is situated on one land title and is located within the Shire of Jerramungup, the majority of which has been cleared for broad scale agriculture. In 2002, it was estimated that 43.8% (287,902 hectares) pre-European vegetation remained within the Shire of Jerramungup (Shepherd et al., 2002) (see Maps: Figure 1 & 2).

Approximately 714 hectares (72%) of the property has been cleared for agricultural activities. This includes almost 100 hectares of regrowth vegetation in the south-east corner of the property that was originally cleared in the late 1990's and re-cleared in 2012 but this may regenerate naturally if allowed.

Approximately 276 hectares (28%) of remnant and regrowth vegetation remains (see Appendix 1). It is the land managers' intent that the property's remnant vegetation, including waterways, be retained and predominantly managed for conservation.

This survey has identified priority areas for conservation by recommendation of retention of remnant bushland complemented by fencing and revegetation projects with a focus on areas deemed suitable for threatened and priority fauna species including Carnaby's Black-cockatoo (Endangered), Mallee fowl (Vulnerable) and Tammar Wallaby (Priority 4). The property has been identified by Gondwana Link as a priority area for restoration within the Fitzgerald River National Park to Stirling Ranges Conservation Action Plan (Gondwana Link, 2008) (see Maps: Figure 3).

The property is contained between Boxwood Hill-Ongerup Road on the northern boundary, adjacent to Corackerup Nature Reserve (4,500 hectares remnant vegetation) managed by the Department of Biodiversity, Conservation and Attractions (DBCA) and vested in the Western Australian Conservation and Parks Commission; privately-owned grazing and cropping farmland on the southern and eastern boundaries; and Monjebup (2,063 hectares) and Monjebup North Reserve to the west of the property, separated by Monjebup Road. Red Moort Reserve, a large intact area of remnant vegetation of approximately 1,037 hectares, owned and managed by Bush Heritage Australia, is situated south of the property separated by one other private property (see Maps: Figure 4).

Currawong is in the Esperance Plains IBRA region and Fitzgerald IBRA sub-region (Atlas of Living Australia, 2019), a region renowned for its high floristic diversity. The remnant vegetation contained on the property is extremely diverse incorporating numerous vegetation types including Mallee heath, shrubland, Moort Woodland, Moort and Mallet Woodland, Riparian Yate Woodland and a mosaic of woodland and Mallee heath.

The closest weather station to the property is Naylerup Weather Station (Station no. 10897) which reports an average annual rainfall of 452.6 mm for all years recorded from 1984 to 2018. Annual rainfall recorded in 2018 was 306 mm (Bureau of Meteorology, 2019).

The property lies between 112 and 170 metres above sea level in the Monjebup subcatchment of the Pallinup River System. There is approximately 4.5km of a main tributary of the Monjebup Creek that runs through the property and eventually flows into the Pallinup River. This creek flows seasonally, flowing mainly after prolonged or heavy rainfall events, and there are no permanent pools evident on aerial photographs. Several minor drainage lines also occur through the property (Bush Heritage Australia, 2013).

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The Pallinup River is one of the one of the largest rivers in the south coast region. The headwaters begin south of Katanning and travel through the Shire of Gnowangerup, Wellstead and Boxwood Hills districts to eventually reach the Beaufort estuary within the Shire of Jerramungup and some 250 kilometres downstream (South Coast Rivercare, 2008).

The average annual rainfall within the Pallinup River catchment ranges from 400-600 millimetres.

The recommended management actions within this report have been developed in consultation with Green Skills and the land holders.

### SURVEY TEAM

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- Basil Schur – Green Skills Inc. Project Manager
- Melissa Howe – Ecologist, contracted by Green Skills Inc.
- Angela Sanders – Ecologist, Bush Heritage Australia
- Jane Thompson – Local resident and bush enthusiast
- Project Officers attending from community landcare groups
  - Freya Spencer –Executive Officer, Gillamii Centre and North Stirlings-Pallinup Natural Resources Inc.
  - Leonie McMahon – Executive Officer – Fitzgerald Biosphere Group
  - Reaghan Shalders, Projects Officer – Fitzgerald Biosphere Group

### SURVEY METHODOLOGY

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A rapid bushland vegetation assessment survey was undertaken on Currawong by the Survey team assessing a range of core attributes for remnant vegetation sites (see Appendix 1: Remnant Vegetation Sites).

Core attributes selected and assessed included vegetation type, vegetation condition, size and perimeter of the remnant vegetation, presence of Threatened, Specially Protected and/or Priority flora and fauna species, presence of wetlands or waterways, connectivity to other vegetation and observed or potential disturbances and threats.

Numerous remnant vegetation sites were connected to other areas of remnant vegetation on the property and across adjacent properties.

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 2: Vegetation Condition Scale).

Vegetation types were identified using Beard vegetation associations (Beard et al, 2013).

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Subsequently, a priority rating was assigned to each site ranging from Very High to Low for future eco-restoration 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. Photos were taken for each site assessed and mapped (see Summary of Vegetation Surveys and Recommendations below).

Proposed fencing and revegetation projects identified as a priority for the property were mapped (see Maps: Figures 6 to 18).

Data collected was recorded electronically on vegetation survey templates developed by the Survey team for this assessment.

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### MAPS



Figure 1: Aerial photo of Currawong – Stephani farm – 1799 Boxwood Hill-Ongerup Road, Monjebup, WA



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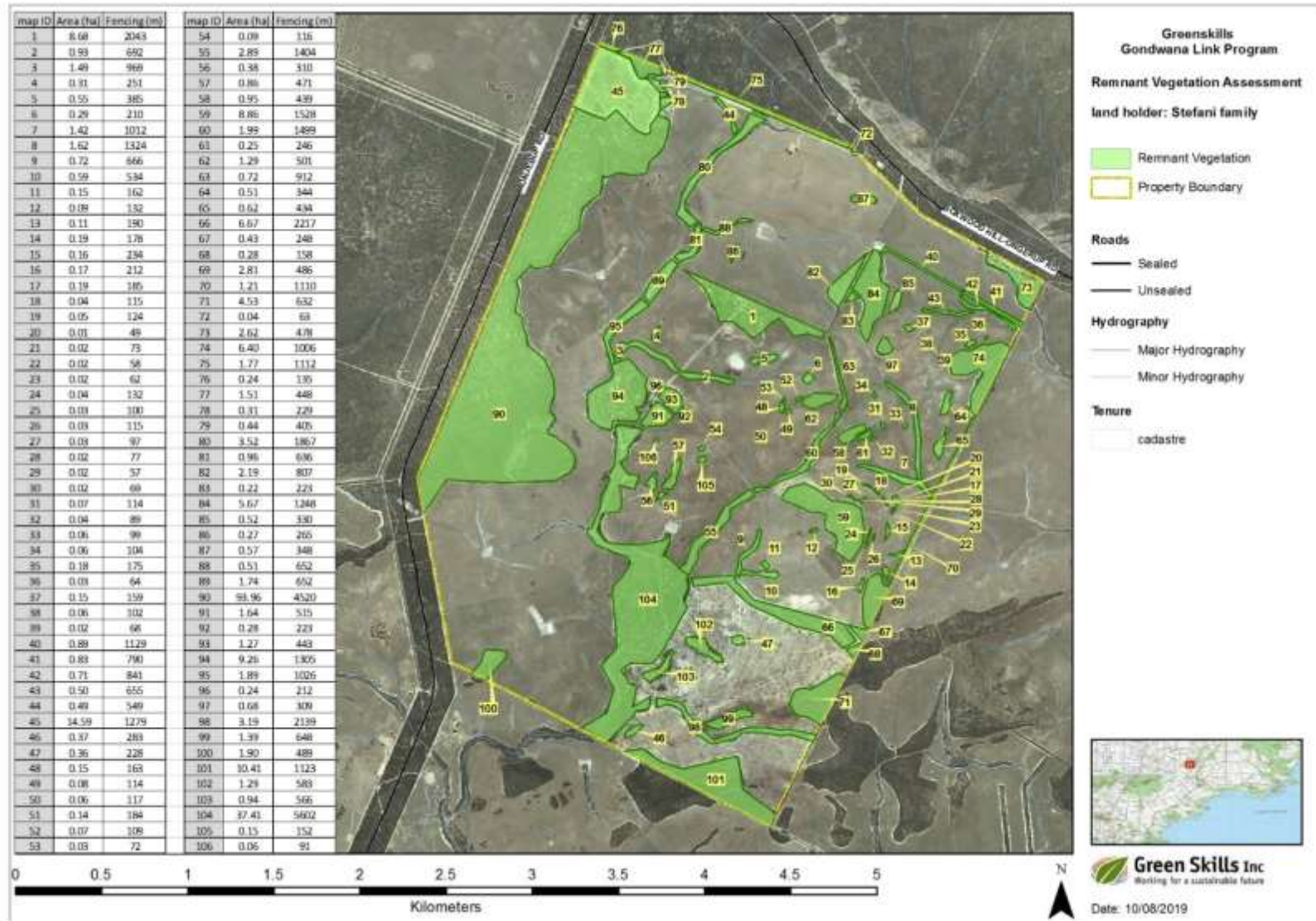


Figure 2: Currawong – Stephani farm – Green Skills Gondwana Link Program – Remnant Vegetation sites

# CURRAWONG — Bushland survey and eco-restoration planning

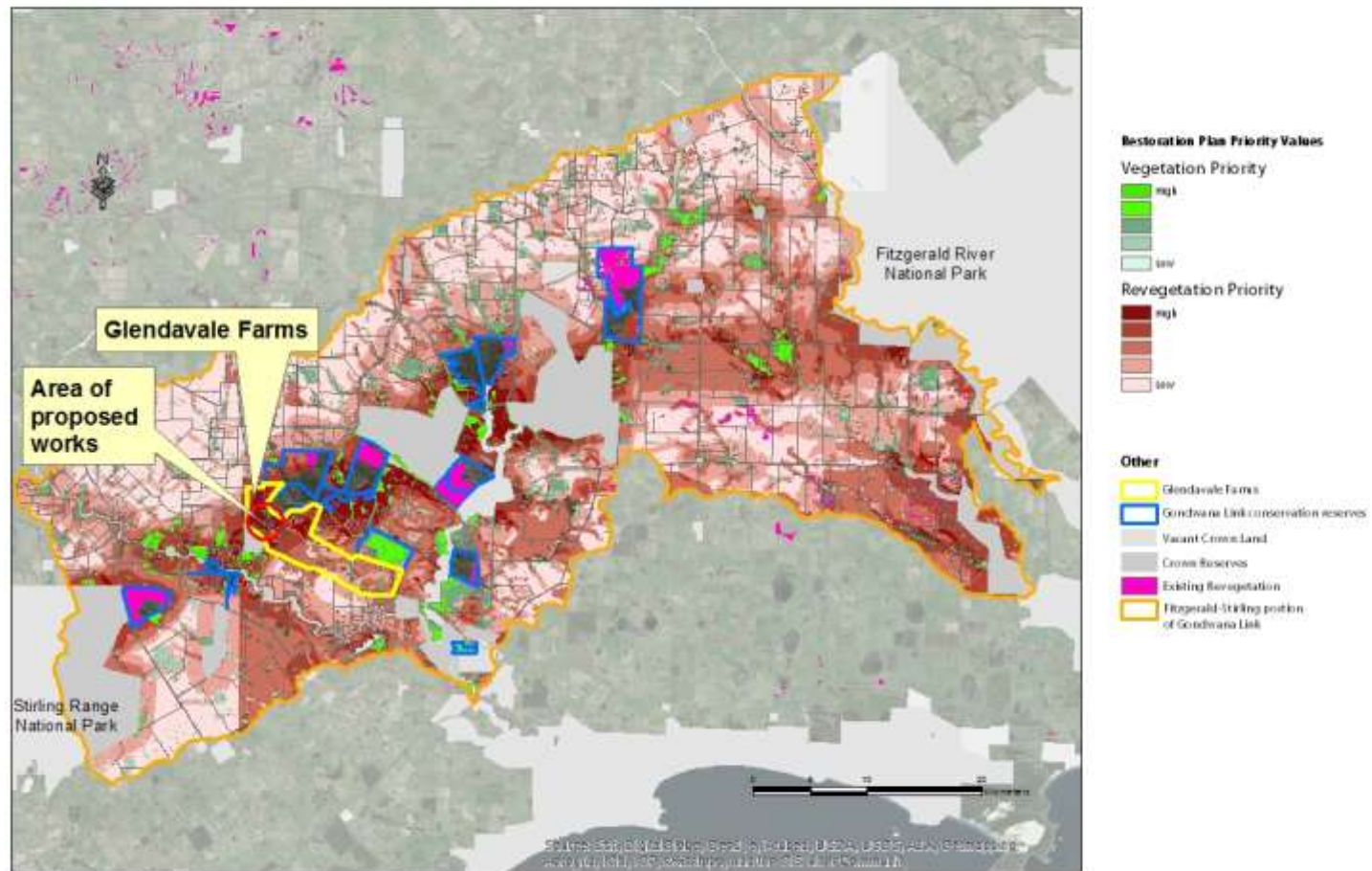
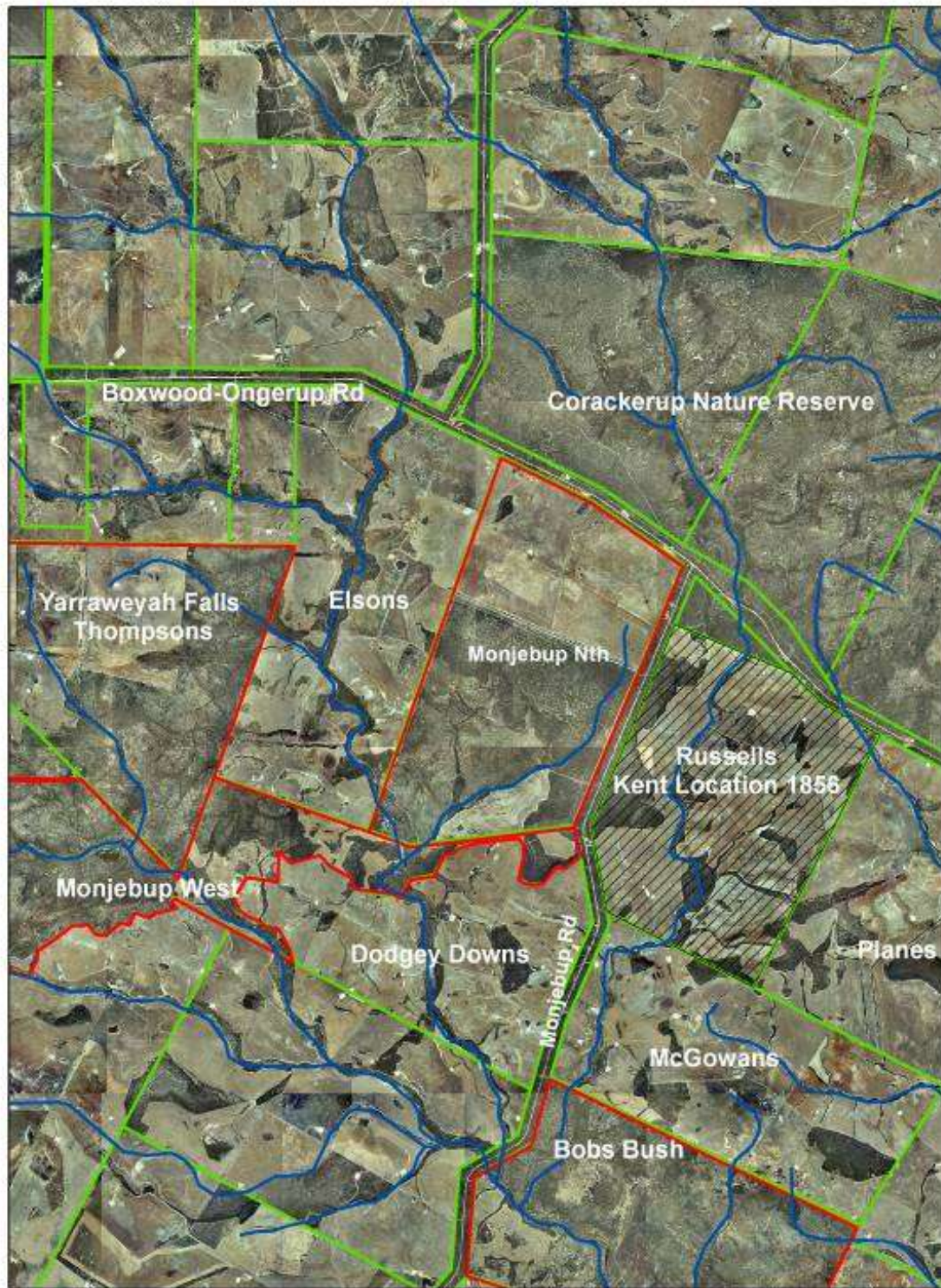


Figure 3: Fitzgerald River National Park to Stirling Range National Park Conservation Action Plan – Priority areas for restoration

## Monjebup Cluster



Prepared by Angela Sanders May 2013

0 0.5 1 2 Kilometers

Figure 4: Location of Currawong – Stephani farm within the Fitz-Stirling area (formerly known as Russells, Kent Location 1856)

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Figure 5: Map of Currawong – Priority bushland for conservation and remnant vegetation

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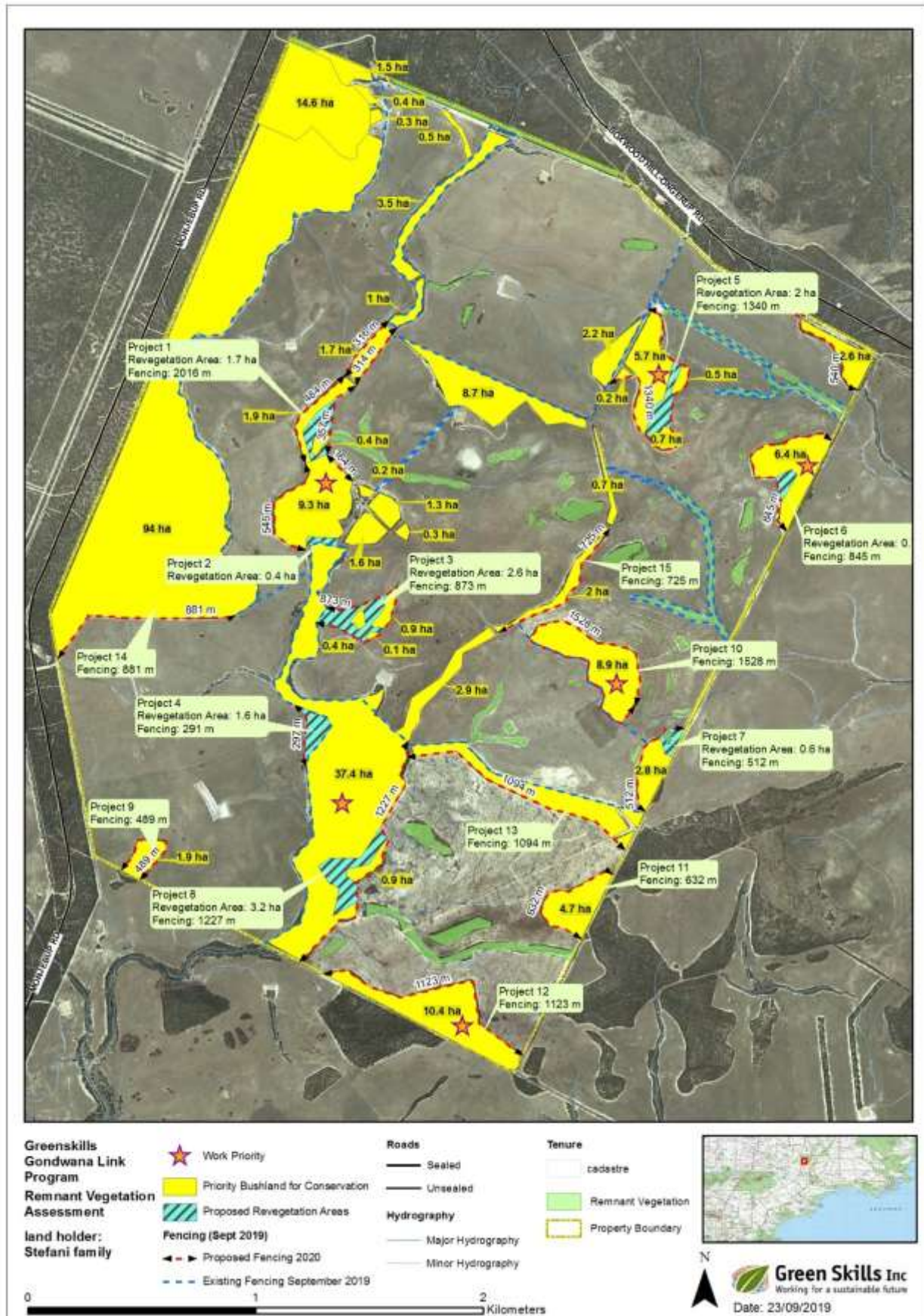


Figure 6: Map of Currawong – Proposed fencing and revegetation areas

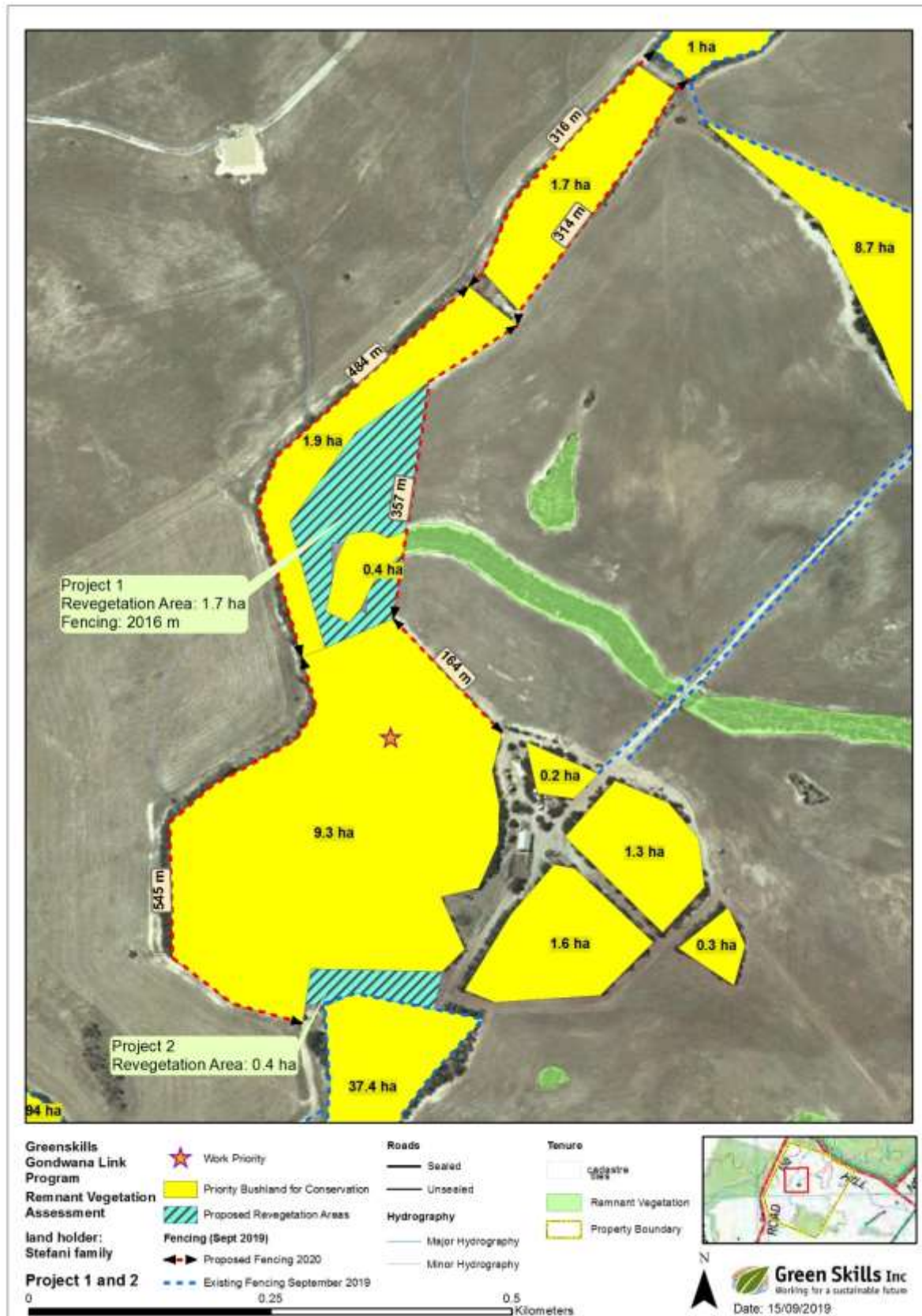


Figure 7: Project 1 & 2

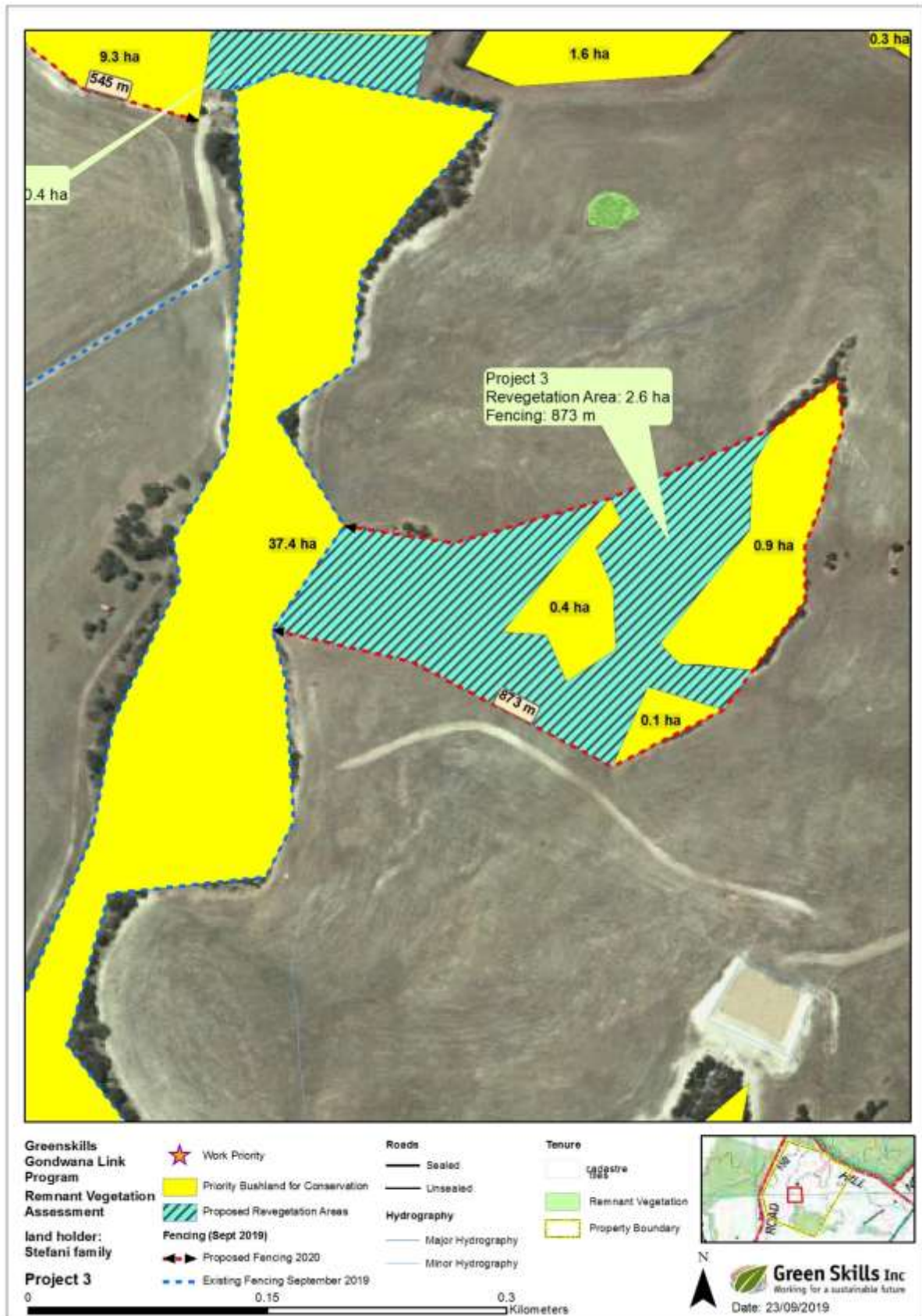


Figure 8: Project 3



Figure 9: Project 4



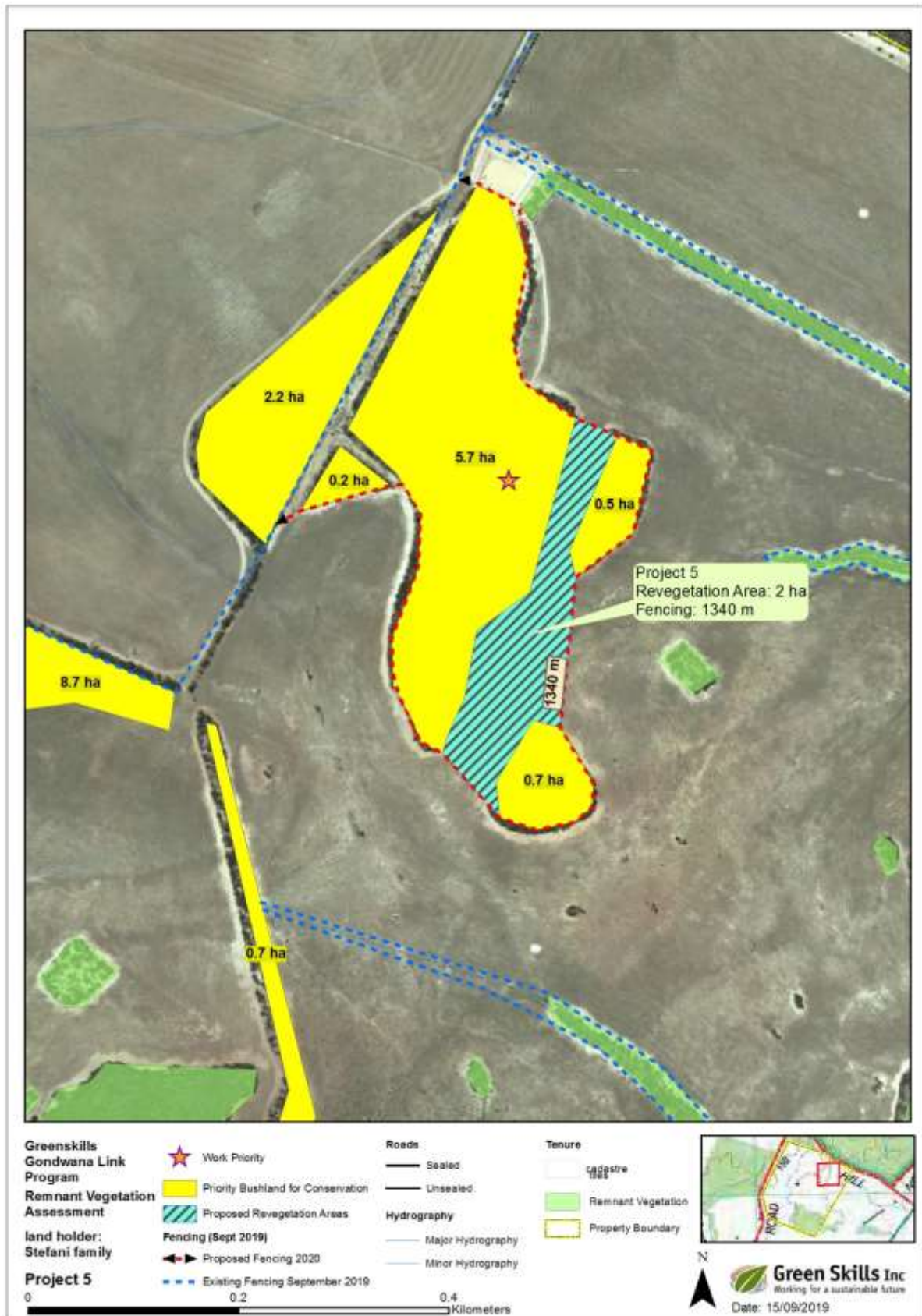


Figure 10: Project 5

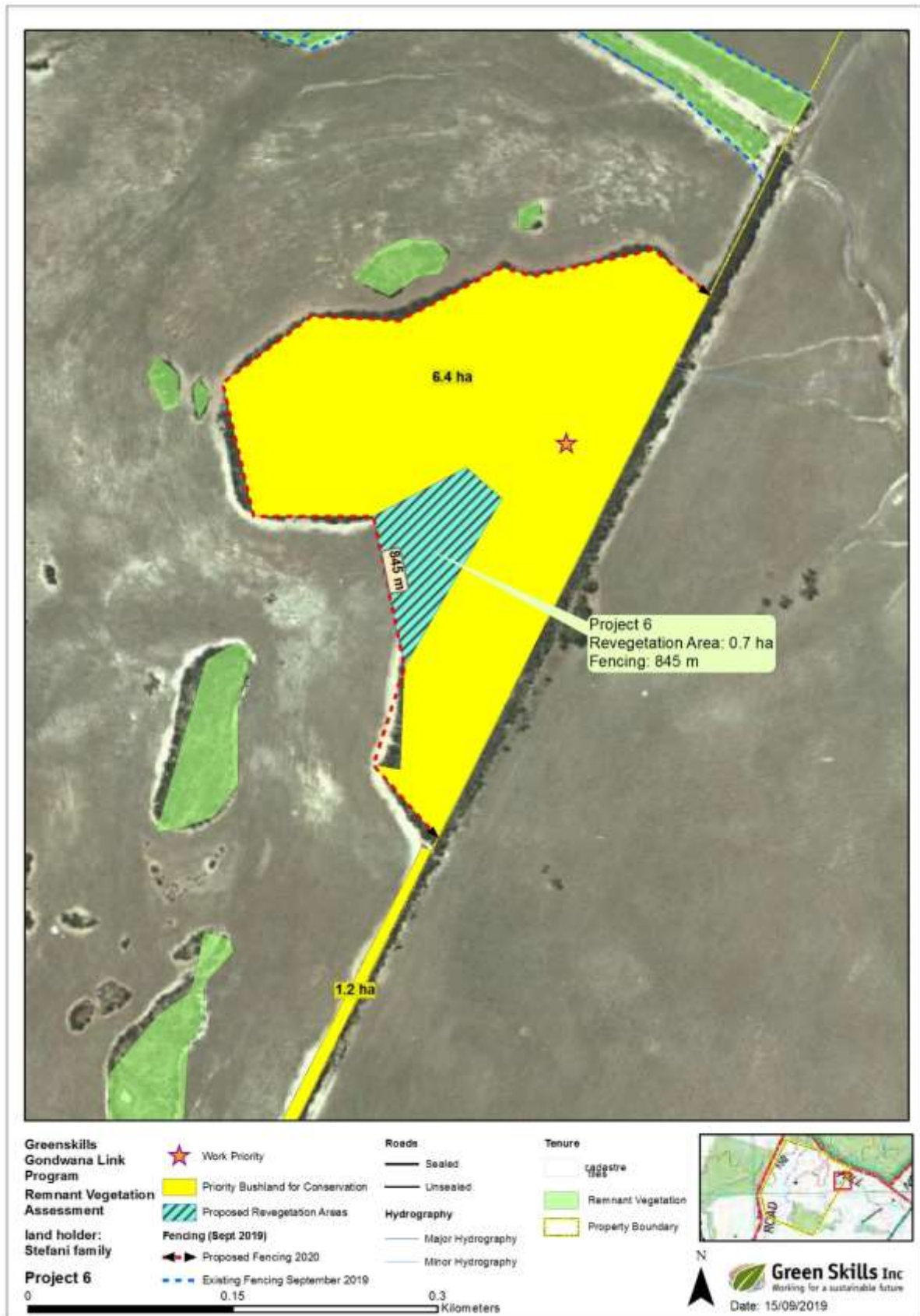


Figure 11: Project 6



Figure 12: Project 7 & 10

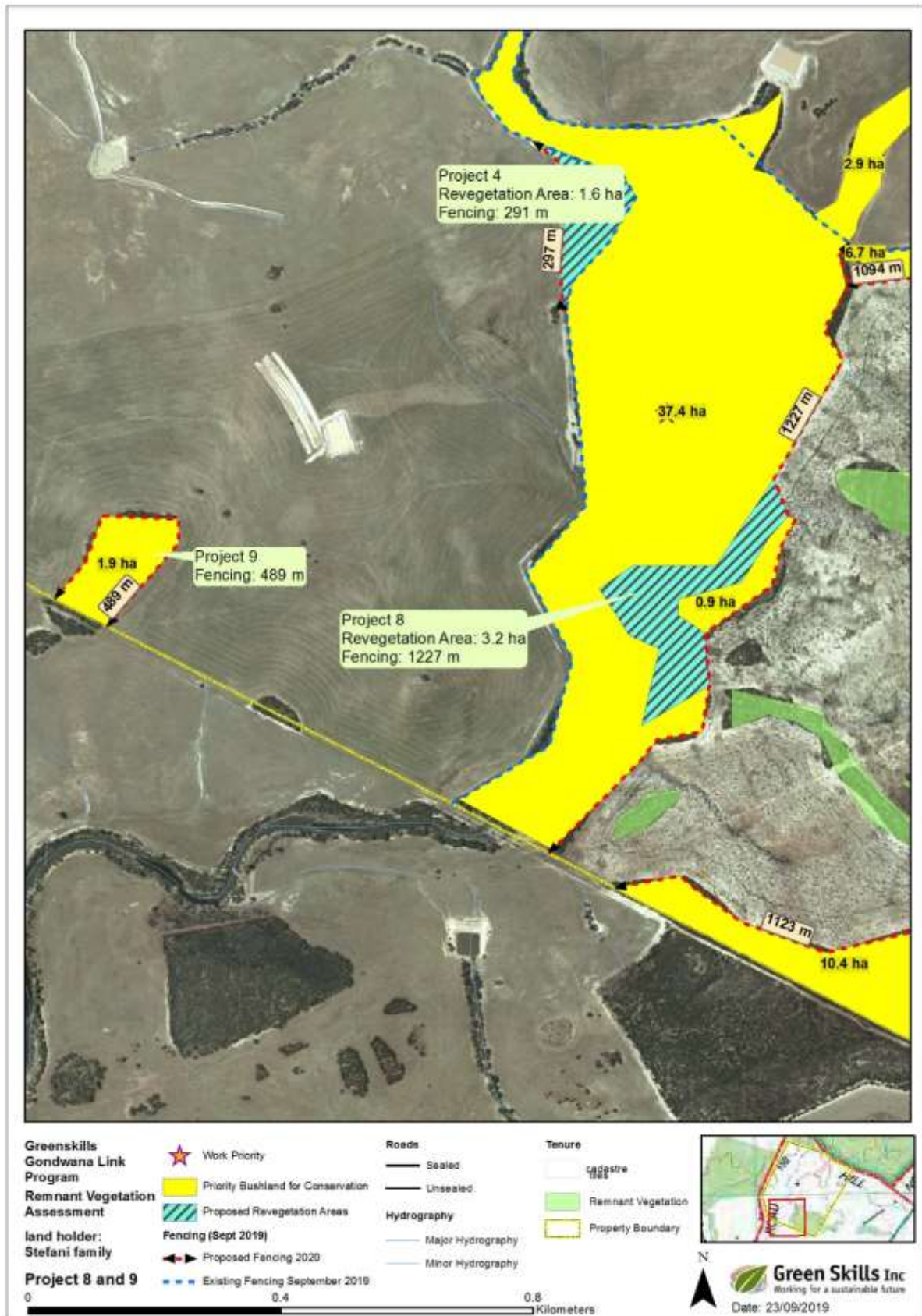


Figure 13: Project 4, 8 & 9



Figure 14: Project 11



Figure 15: Project 12

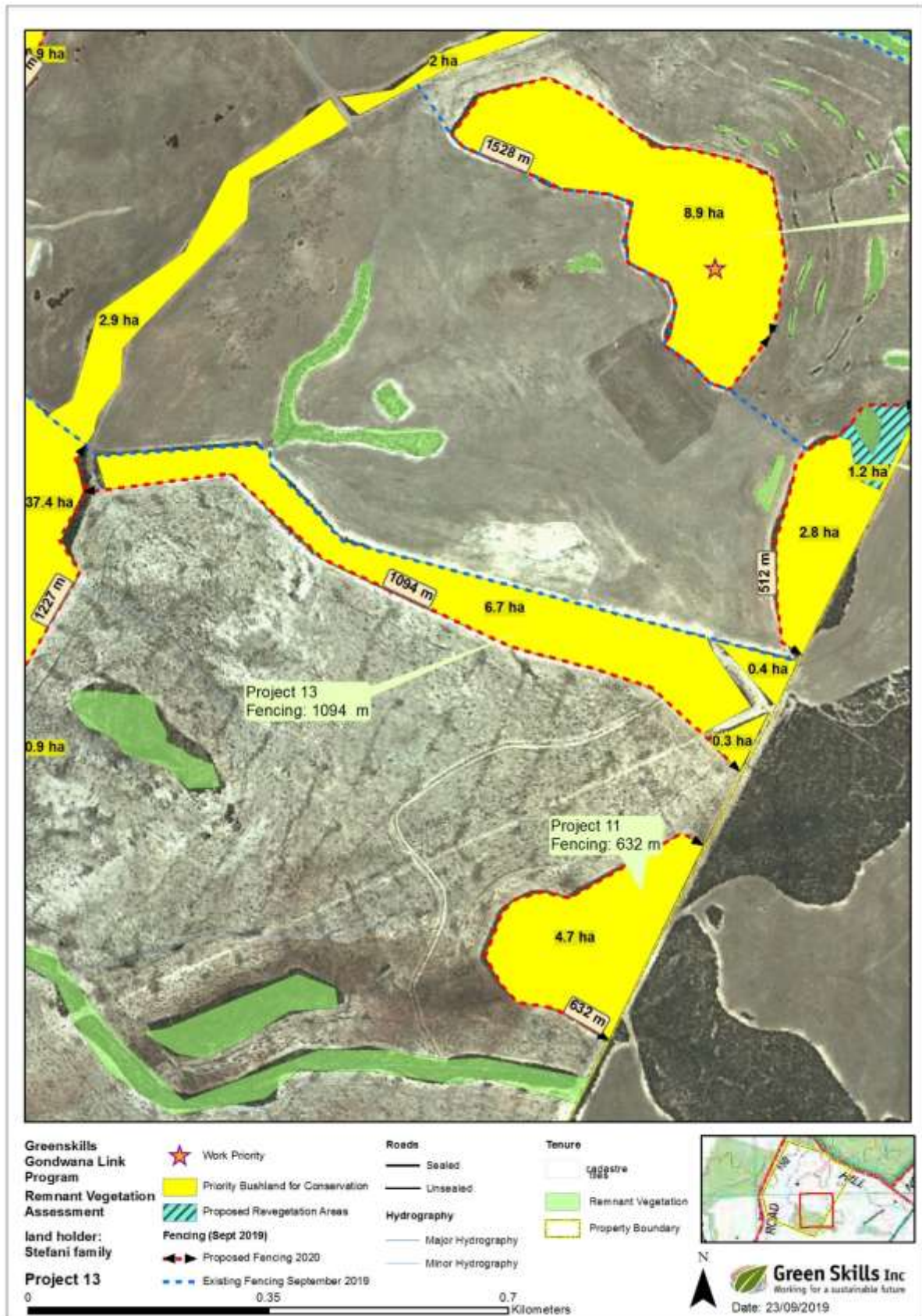


Figure 16: Project 11 & 13

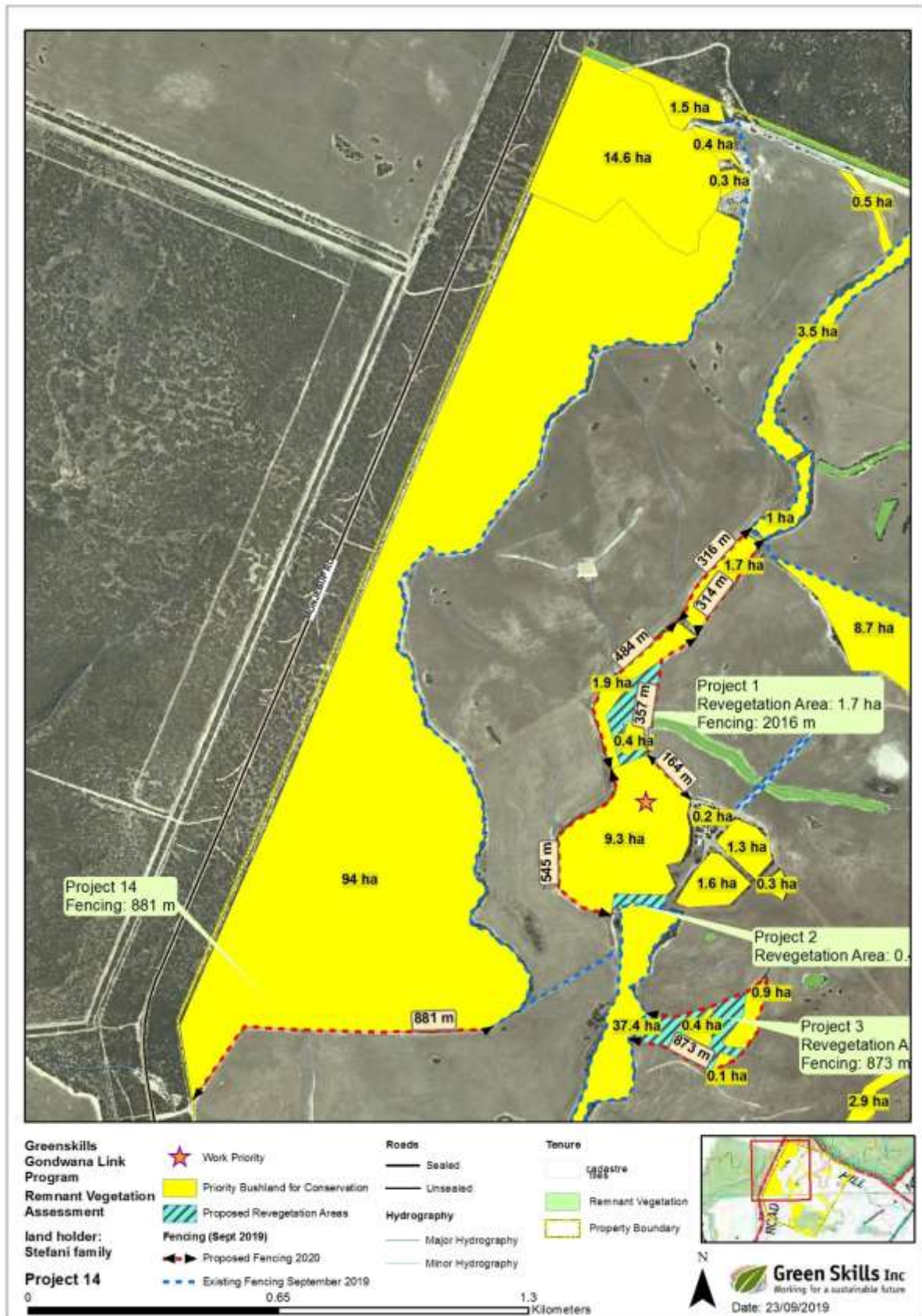


Figure 17: Project 1, 2, 3 & 14



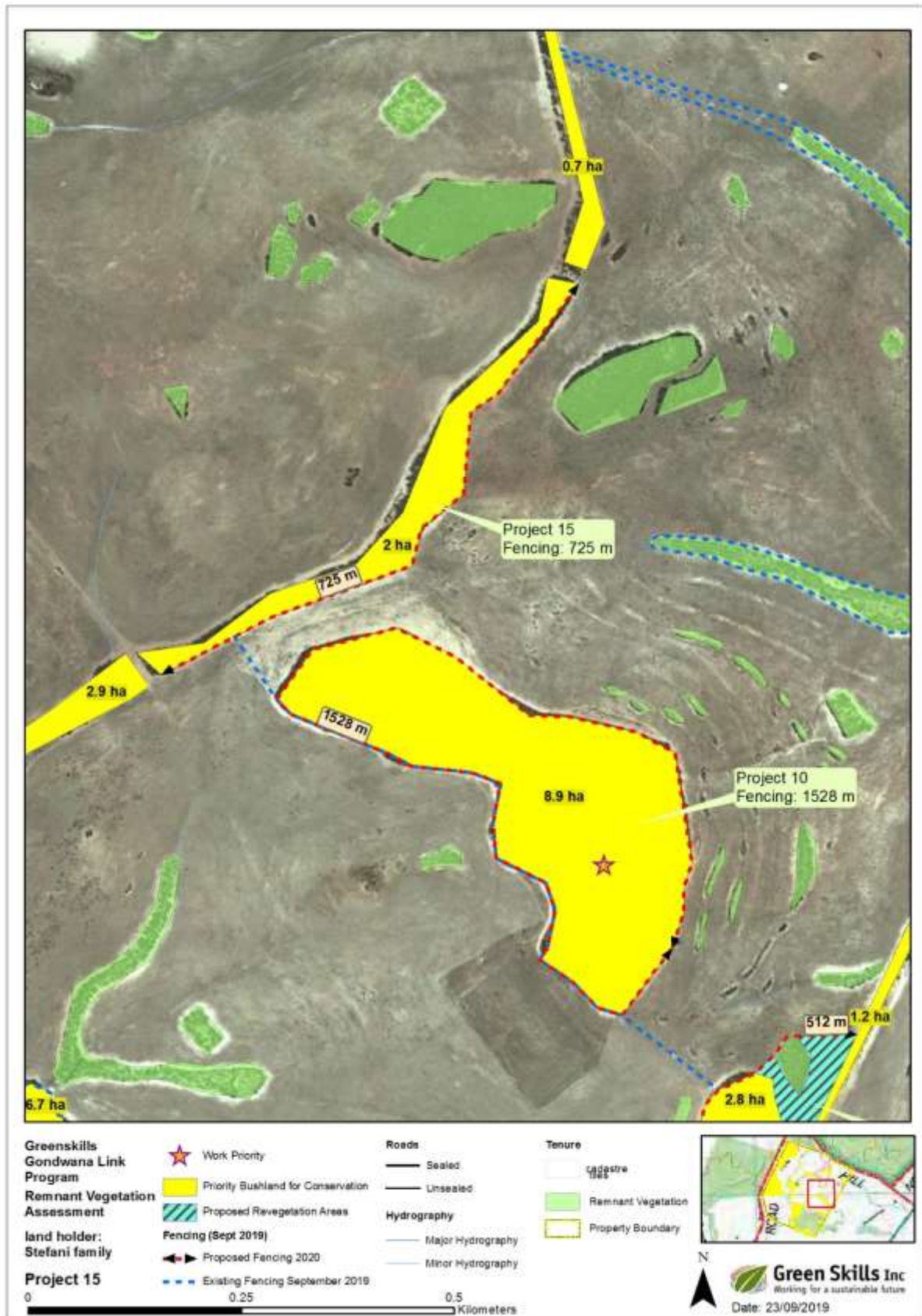


Figure 18: Project 10 & 15

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SUMMARY OF VEGETATION SURVEYS AND RECOMMENDATIONS

<b>SITE NO: 94</b>			
<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	3993-4005	<b>Connectivity to other bushland (Y/N)</b>	Y

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

Site Vegetation							
Cross box	Moort & Mallet Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>	X					X	
<b>Mid</b>	X				X		
<b>Lower</b>	X				X		
<b>Ground</b>	X				X		

<b>Land Formation</b>	Level		Gentle		Moderate	X
Cross box	Steep	X	Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>	No, spongelite breakaway					

<b>Disturbance/Threats</b>	Stock grazing	No	Recent Fire (<2 yrs)	No	Flooding	No
Notes:	Erosion	No	Dieback Disease	No	Weeds	No
	Salinity	No				
	Other	Water tank clearing				

<b>Flora species</b>	
<i>Eucalyptus platypus</i> (Moort)	<i>Melaleuca acuminata</i>
<i>Eucalyptus species</i> (mallee)	

<b>Fauna species</b>	
Mallee fowl mound (inactive)	

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
94	9.26ha/1305m	MOORT & MALLEE WOODLAND	4 – VERY GOOD	HIGH – RETAIN

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### PHOTOS & DESCRIPTOR



Site 94: Moort & mallee woodland on spongelite breakaway



Site 94: Understorey of *Melaleuca acuminata*



Site 94: View to the Stirling Ranges from breakaway



Site 94: Landholder, Jeremy Stephani taking in the view

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

**Project 1 – Revegetation area: 0.7 ha; Fencing: 2016 m**

- Amalgamate Site 3, 94 & 95 with fencing and revegetation

**Project 2 – Revegetation: 0.4 ha**

- Amalgamate Site 94 & 104 with fencing and revegetation
- Site 94 – Spongelite breakaway
- Recommend retaining remnant vegetation and continue to exclude stock
- Already partially fenced, close to homestead

### SITE NO: 51, 56, 57, 104

<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	4006-4010	<b>Connectivity to other bushland (Y/N)</b>	Y

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

## CURRAWONG — Bushland survey and eco-restoration planning

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

Land Formation	Level		Gentle	X	Moderate	X
Cross box	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)		Yes				

Disturbance/Threats	Stock grazing		Recent Fire (<2 yrs)	N	Flooding	Y - historical
Cross boxes	Y		Dieback Disease	N	Weeds	Y
Notes	Erosion	N				
	Salinity	N				
	Other	Western side of creek fenced, eastern side unfenced/dilapidated				

Flora species		
<i>Eucalyptus species</i> (mallee)		

Fauna species		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
51, 56, 57, 104	51: 0.14ha/184m 56: 0.38ha/310m 57: 0.86ha/471m 104: 37.41ha/5602m	MALLEE HEATH	4 – VERY GOOD (REMNANT) 1 – VERY DEGRADED (CLEARED LAND)	VERY HIGH

PHOTOS & DESCRIPTOR

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**Assessing Mallee heath vegetation**



**Mallee heath in Very good condition**



**Jane Thompson in Mallee heath vegetation**



**Survey team discuss revegetation techniques with landholder**

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

#### Project 3, 4 & 8 – Revegetation and Fencing

- Amalgamate Site 104, 51, 56, 57 by fencing and revegetating (Project 3)
- Fence and revegetate western edge of Site 104 (Project 4)
- Amalgamate Site 104 & 103 by fencing and revegetating east side of Site 104 (Project 8)
- Site 56 is partially fenced (east of Site 104)
- Widen creekline fencing on eastern side of Site 104 to protect native vegetation currently established outside the fence
- Fencing dilapidated on western side of Site 104
- Cape weed (*Arctotheca calendula*) present on cleared land

### SITE NO: 104

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

**Photo numbers**

4011-4020

**Connectivity to other bushland (Y/N)**

Y

**Remnant Vegetation**

X

Cross box

**Coordinates**

E

## CURRAWONG — Bushland survey and eco-restoration planning

<b>Restoration/Revegetation</b>		<b>Zone: 50</b>	N
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Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground</b>			X		X		

Land Formation	Level		Gentle	X	Moderate	
Cross box	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)		Yes, ephemeral creekline sustained flood damage a few years ago (2016)				

Disturbance/Threats	Stock grazing		Recent Fire (<2 yrs)		Flooding	Y – historical (2016)
As above		Y		N		
Notes	Erosion	N	Dieback Disease	N	Weeds	Y
	Salinity					
	Other					

Flora species		
<i>Eucalyptus species</i> (mallee)	Native grasses	
<i>Allocasuarina huegeliana</i> - Rock sheoak	Native sedges	

Fauna species		
Mallee fowl mound (unsure if active)		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
104	37.41ha/5602m	MALLEE HEATH	3 - GOOD	HIGH – REVEGETATION & FENCING

**PHOTOS & DESCRIPTOR**

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Site 104: Creekline on western edge with pools



Site 104: Proposed revegetation area to amalgamate Site 103



Site 104: Proposed revegetation area to amalgamate Site 103



Site 104: Track near Site 103 & 104.



Site 104: Angela Sanders recommends not to dig with machinery during revegetation efforts to avoid weed encroachment. Many native grasses are already established.



Site 104: Creekline vegetation damaged by flood in 2016.

**MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY**

**Project 2, 3, 4 & 8 – Revegetation and Fencing**

- Revegetation desired by landholder, recommended
- No scalping or mounding as this may encourage weed establishment
- Some Cape weed present

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- Brush matting with seed
- Mallee heath vegetation adequate for revegetation species due to soil type
- Creekline degraded due to damage from flooding, possibly some salinity

### SITE NO: 98, 99, 103

<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	Site 98 & 99: 4021-4026 Site 103: 4028-4029	<b>Connectivity to other bushland (Y/N)</b>	Y

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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

<b>Land Formation</b> Cross box	Level	X	Gentle		Moderate	
	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>		Possible drainage line, doesn't run often				

<b>Disturbance/Threats</b> Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Notes	Erosion	N	Dieback Disease	N	Weeds
	Salinity	N				
	Other					

<b>Flora species</b>	
<i>Eucalyptus species</i> (mallee)	

<b>Fauna species</b>	

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH



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98, 99, 103	98: 3.19ha/2139m 99: 1.39ha/648m 103: 0.94ha/566m	MALLEE HEATH	4-5 – VERY GOOD TO EXCELLENT	SITE 103: VERY HIGH SITE 98 & 99: LOW
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### PHOTOS & DESCRIPTOR



Site 98 & 99



Site 98 & 99



Site 98 & 99



Site 103: Within proposed revegetation area

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

**Project 8 – Revegetation Area: 3.2ha Fencing: 1227m**

- Site 98, 99 & 103 currently unfenced
- Site 103 – Very high priority for revegetation and fencing with Site 104
- 36 m clearing for boom spray
- Sandy soil
- Signs of rabbits prevalent

### SITE NO: 66 & 67

<b>Date:</b> 9th September 2019	<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders		
<b>Photo numbers</b>	Site 66: 4030-4032 Site 67: 4115	<b>Connectivity to other bushland (Y/N)</b>	Y

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
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## CURRAWONG — Bushland survey and eco-restoration planning

<b>Restoration/Revegetation</b>		<b>Zone: 50</b>	N
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Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground</b>			X		X		

Land Formation	Level		Gentle	X	Moderate	
Cross box	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)		Drainage line, ephemeral				

Disturbance/Threats	Stock grazing		Recent Fire (<2 yrs)		Flooding	
Cross boxes	N		N		N	
Notes	Erosion	N	Dieback Disease	N	Weeds	edge
	Salinity	N				
	Other					

Flora species		
<i>Eucalyptus annulata</i>		
<i>Melaleuca acuminata</i>		

Fauna species		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
66	6.67ha/2217m		4 – VERY GOOD	HIGH

PHOTOS & DESCRIPTOR
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CURRAWONG — Bushland survey and eco-restoration planning



Site 66: Landholder keen to fence this remnant vegetation



Site 66: Unfenced Mallee heath remnant vegetation in Very good condition



Site 67: View to the Stirling Ranges

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Project 13 – Fencing: 1,094 m

- Currently no fencing, landholder wants fencing
- Water runs through the site

**SITE NO: 9, 10 & 11**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

**Photo numbers**

4034-4035

**Connectivity to other bushland (Y/N)**

Connected to Site 66

**Remnant Vegetation - regrowth**

X

Cross box

**Coordinates**

E

**Restoration/Revegetation**

**Zone: 50**

N

**Site Vegetation**

Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		

## CURRAWONG — Bushland survey and eco-restoration planning

Mid							
Lower			X		X		
Ground							

<b>Land Formation</b> Cross box	Level	X	Gentle		Moderate	
	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)		Previously cleared and regrown, thin long vegetation corridor Dam doesn't hold water				

<b>Disturbance/Threats</b> Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Erosion	N	Dieback Disease	N	Weeds	edges
Notes	Salinity	N				
	Other					

<b>Flora species</b>	
<i>Eucalyptus species</i> (mallee)	

<b>Fauna species</b>	

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
9, 10, 11	9: 0.72ha/666m 10: 0.59ha/534m 11: 0.15ha/162m	MALLEE HEATH	3	LOW

<b>PHOTOS &amp; DESCRIPTOR</b>	
	
<p><b>Site 9 &amp; 10: Regrowth Mallee heath vegetation</b></p>	

## CURRAWONG — Bushland survey and eco-restoration planning

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

- Low priority for management
- Landholder wants to clear this section of bushland
- Site 9 & 10 have a high edge to area ratio (long thin strips of vegetation)
- Site 11 is a very small isolated remnant

### SITE NO: 55, 60

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	4036-4037	<b>Connectivity to other bushland (Y/N)</b>	Y (Site 104)
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<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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

<b>Land Formation</b> Cross box	Level	X	Gentle		Moderate	
	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>		No				

<b>Disturbance/Threats</b> Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Notes	Erosion	N	Dieback Disease	N	Weeds
	Salinity	N				
	Other					

<b>Flora species</b>	
<i>Eucalyptus annulata</i>	

<b>Fauna species</b>	

### SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT
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## CURRAWONG — Bushland survey and eco-restoration planning

				LOW, MEDIUM, HIGH, VERY HIGH
55 & 60		MALLEE HEATH & MELALEUCA	4 – VERY GOOD	HIGH – RETAIN

### PHOTOS & DESCRIPTOR



**Site 55: Fenced remnant Mallee heath vegetation in Very good condition**



**Site 60: Unfenced remnant Mallee heath with dominant Melaleuca species understorey**

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

#### Project 15 – Fencing: 725 m

- High priority to retain remnant vegetation
- Recommend fencing for Site 60
- Site 55 is partially fenced

### SITE NO: 59

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	4038-4039	<b>Connectivity to other bushland (Y/N)</b>	N
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<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

### Site Vegetation

	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground</b>			X		X		

<b>Land Formation</b>	Level		Gentle	X	Moderate	
Cross box	Steep		Very Steep		Precipitous	

## CURRAWONG — Bushland survey and eco-restoration planning


Wetlands/Creek present (describe)	No, rocky ground, granite
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Disturbance/Threats	Stock grazing	Recent Fire (<2 yrs)	Flooding		
Cross boxes	N	N	N	N	N
Notes	Erosion	N	Dieback Disease	N	Weeds edge
	Salinity	N			
	Other				

Flora species	
<i>Kunzea species</i>	
Sedges	

Fauna species	

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
59	8.86ha/1528m	MALLEE HEATH	4 – VERY GOOD	VERY HIGH

PHOTOS & DESCRIPTOR	
	<p><b>Site 59: 8.86 ha Mallee heath remnant, a high priority for fencing</b></p>

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY
<p><b>Project 10 – Fencing: 1528m (8.9ha)</b></p> <ul style="list-style-type: none"> <li>➤ Currently no fencing, rocky ground</li> <li>➤ Very high priority for fencing</li> </ul>

## CURRAWONG — Bushland survey and eco-restoration planning

**SITE NO: 31, 32, 58, 61**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	31 & 34: 4047 58: 4043-4046	<b>Connectivity to other bushland (Y/N)</b>	N
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<b>Remnant Vegetation - regrowth</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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

<b>Land Formation</b>	Level	X	Gentle		Moderate	
Cross box	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>	No					

<b>Disturbance/Threats</b>						
Cross boxes		N	Stock grazing	N	Flooding	N
Notes	Erosion	N	Recent Fire (<2 yrs)	N	Weeds	edge
	Salinity	N	Dieback Disease	N		
	Other					

<b>Flora species</b>						

<b>Fauna species</b>						

**SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS**

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
31, 32 & 58	31: 0.07ha/114m 32: 0.04ha/89m 58: 0.95ha/439m	MALLEE HEATH	31 & 32: 2 – DEGRADED 58: 3 – GOOD	LOW

<b>PHOTOS &amp; DESCRIPTOR</b>	

<b>MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY</b>



## CURRAWONG — Bushland survey and eco-restoration planning

➤ Low priority for fencing

**SITE NO: 97**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

**Photo numbers**

4048-4049, 4067, 4069

**Connectivity to other bushland (Y/N)**

N

**Remnant Vegetation**

X

Cross box

**Coordinates**

E

**Restoration/Revegetation**

**Zone: 50**

N

**Site Vegetation**

	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Cross box							
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground</b>			?				

**Land Formation**

	Level	X	Gentle		Moderate	
Cross box	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)	No					

**Disturbance/Threats**

Cross boxes	Stock grazing	possible	Recent Fire (<2 yrs)	N	Flooding	N
Notes	Erosion	N	Dieback Disease	N	Weeds	likely
	Salinity	N				
	Other	Surveyed from a distance (binoculars)				

**Flora species**


**Fauna species**

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**SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS**

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
97	0.68ha/309m		3 - GOOD	VERY HIGH

**PHOTOS & DESCRIPTOR**

CURRAWONG — Bushland survey and eco-restoration planning



Site 97



Site 97



Site 97



Site 97 (background) & Site 84 (foreground)

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Project 5 – Revegetation Area: 2ha – Fencing: 1340m

- Very high priority for revegetation and fencing with Site 84 & 85 (see below)

**SITE NO: 83, 84, 85, 97**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	83	<b>Connectivity to other bushland (Y/N)</b>	Some
	84: 4054-4058, 4068		
	85: 4052-4053, 4070		
	97: 4067, 4069		

<b>Remnant Vegetation</b>	X	Cross box
<b>Restoration/Revegetation</b>		

<b>Coordinates</b>	E
<b>Zone: 50</b>	N

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

## CURRAWONG — Bushland survey and eco-restoration planning

Mid			X		X		
Lower			X			X	
Ground			X		X		

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

Disturbance/Threats Cross boxes	Stock grazing	Y	Recent Fire (<2 yrs)	N	Flooding	2016 (Site 69)
	Erosion	N	Dieback Disease	N	Weeds	edge
	Salinity	N				
	Other					
Notes						

<b>Flora species</b>		
<i>Grevillea tetragonoloba</i>	<i>Eucalyptus pleurocarpa</i>	
<i>Eucalyptus pleurocaulis porforea</i>		

<b>Fauna species</b>		
White-browed Babbler		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
83, 84, 85, 97	83: 0.22ha/223m 84: 5.67ha/1248m 85: 0.52ha/330m 97: 0.68ha/309m	MALLEE HEATH	3 - GOOD	VERY HIGH

**PHOTOS & DESCRIPTOR**

 <p>Site 84</p>	 <p>Site 84</p>
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## CURRAWONG — Bushland survey and eco-restoration planning



Site 84



Site 84



Site 84



Site 85



Site 85



Site 97

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Project 5 – Revegetation Area: 2ha – Fencing: 1340m

- Very high priority for revegetation and fencing
- Amalgamate Site 84, 85 & 97 remnants by fencing and revegetating
- Site 85 is regrowth and has very high biodiversity

## CURRAWONG — Bushland survey and eco-restoration planning

**SITE NO: 40, 41, 42, 43**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	40: 4061-4062	<b>Connectivity to other bushland (Y/N)</b>	Some
	41 & 42: 4073-4074		
	43: 4066		

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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

<b>Land Formation</b>	Level		Gentle	X	Moderate	
	Cross box	Steep		Very Steep		Precipitous
<b>Wetlands/Creek present (describe)</b>		No				

<b>Disturbance/Threats</b>	Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Notes	Erosion	N	Dieback Disease	N	Weeds	minimal
		Salinity	N				
		Other					

<b>Flora species</b>	
<i>Banksia media</i>	
<i>Hakea laurina</i>	

<b>Fauna species</b>	

**SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS**

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
40, 41, 42, 43	40: 0.89ha/1129m 41: 0.83ha/790m 42: 0.71ha/841m 43: 0.5ha/655m	MALLEE HEATH	2 - DEGRADED	LOW

**PHOTOS & DESCRIPTOR**

CURRAWONG — Bushland survey and eco-restoration planning



Site 40



Site 40



Site 41 & 42



Site 41 & 42



Site 43: Mallee heath

**MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY**

- Low priority for fencing, management
- Landholder wants to clear 40, 41, 42, 43 (particularly 42 & 43)
- All remnants have high edge to area ratio (long thin vegetation corridors) and have been assessed as being in a Degraded condition
- Some of the remnants contain good food plants for Black cockatoos

**CURRAWONG — Bushland survey and eco-restoration planning**

**SITE NO: 73**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

**Photo numbers**

4071-4072

**Connectivity to other bushland (Y/N)**

Y – Road verge

**Remnant Vegetation**

X

Cross box

**Coordinates**

E

**Restoration/Revegetation**

**Zone: 50**

N

**Site Vegetation**

Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X		X		
<b>Lower</b>			X			X	
<b>Ground</b>			X		X		

**Land Formation**

Cross box	Level		Gentle	X	Moderate	
	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>	Ephemeral creekline					

**Disturbance/Threats**

Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	Past (2016)
<b>Notes</b>	Erosion	Possible	Dieback Disease	N	Weeds	Y
	Salinity	Possible				
	Other					

**Flora species**

<i>Eucalyptus species</i> (mallee)	
<i>Banksia media</i>	

**Fauna species**

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**SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS**

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
73	2.62ha/478m	MALLEE HEATH	3-4 – GOOD TO VERY GOOD	HIGH

**PHOTOS & DESCRIPTOR**

CURRAWONG — Bushland survey and eco-restoration planning



Site 73: 2.62 ha unfenced remnant Mallee heath vegetation



Site 73: Assessed to be in Good to Very Good condition

**MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY**

- High priority for fencing as connects to high quality road verge vegetation on Boxwood Hill-Ongerup Road
- Fencing of 543 m required for 2.62 ha remnant Mallee heath vegetation

**SITE NO: 35, 37, 74**

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	Site 35: 4081 Site 37: 4084 Site 74: 4080, 4082-4083, 4086-4092	<b>Connectivity to other bushland (Y/N)</b>	N
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<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground - litter</b>							

<b>Land Formation</b> Cross box	Level		Gentle	X	Moderate	
	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>		No				

<b>Disturbance/Threats</b> Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Erosion	N	Dieback Disease	N	Weeds	edge
	Salinity	N				



## CURRAWONG — Bushland survey and eco-restoration planning

	Other	
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<b>Flora species</b>		
<i>Eucalyptus annulata</i>		

<b>Fauna species</b>		
Echidna - diggings		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
35, 37, 74	35: 0.18ha/175m 37: 0.15ha/159m 74: 6.4ha/1006m	MALLEE HEATH	SITE 35: 3 – GOOD SITE 37: 3 – GOOD SITE 74: 4 – VERY GOOD	VERY HIGH

### PHOTOS & DESCRIPTOR



**Site 35: Small isolated Mallee heath remnant (background)**



**Site 37: Isolated Mallee heath remnant in good condition**



**Site 74: Large 6.4 ha unfenced Mallee heath remnant**



**Site 74: Echidna diggings**

CURRAWONG — Bushland survey and eco-restoration planning



Site 74: Good habitat complexity within the remnant



Site 74: 6.4 ha Mallee heath remnant vegetation to be fenced



Site 74: Mallee heath remnant being assessed by Angela Sanders with landholder, Jeremy Stephani



Site 74: Mallee heath remnant being assessed by Angela Sanders with Jane Thompson documenting flora species

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Project 6 – Revegetation Area: 0.7ha – Fencing: 845m

- Currently not fenced
- Very high priority for fencing Site 74 and revegetating southern side

**SITE NO: 7 & 8**

<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	7: 4105-4108	<b>Connectivity to other bushland (Y/N)</b>	Y

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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

## CURRAWONG — Bushland survey and eco-restoration planning

Mid			X			X	
Lower			X		X		
Ground - litter							

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

Disturbance/Threats Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Erosion	N	Dieback Disease	N	Weeds	edge
	Salinity	N				
	Other					
Notes						

<b>Flora species</b>	
<i>Eucalyptus species</i> (mallee)	
<i>Eucalyptus platypus</i> (Moort)	

<b>Fauna species</b>	
Yellow-rumped Thornbill	

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
7, 8	7: 1.42ha/1012m 8: 1.62ha/1324m	MALLEE HEATH	3 – GOOD	LOW

**PHOTOS & DESCRIPTOR**

 <p>Site 7: Long thin corridor of Mallee heath vegetation</p>	 <p>Site 7: Fenced Mallee heath vegetation</p>
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<b>MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY</b>
➤ Fenced – top of fence is 3 line electric

## CURRAWONG — Bushland survey and eco-restoration planning

- Site 7 & 8 have a high edge to area ratio (long thin strips of vegetation)
- Low priority for fencing as landholder wants to construct dam and clear the vegetation

### SITE NO: 69

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

**Photo numbers**

4117-4118

**Connectivity to other bushland (Y/N)**

Y – boundary vegetation

**Remnant Vegetation**

X

Cross box

**Coordinates**

E

**Restoration/Revegetation**

**Zone: 50**

N

### Site Vegetation

Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground</b>							

### Land Formation

Cross box	Level	Gentle	Moderate	X
	Steep	Very Steep	Precipitous	

Wetlands/Creek present (describe)

### Disturbance/Threats

Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
Notes	Erosion	N	Dieback Disease	N	Weeds	edge
	Salinity	N				
	Other					

### Flora species

<i>Eucalyptus species</i> (mallee)	
<i>Gastrolobium spinosum</i>	

### Fauna species

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### SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
69	2.81ha/486m	MALLEE HEATH	4 – VERY GOOD	HIGH

## CURRAWONG — Bushland survey and eco-restoration planning

### PHOTOS & DESCRIPTOR



Site 69: *Gastrolobium spinosum* (Prickly Poison) is extremely toxic to stock



Site 69: *Gastrolobium spinosum* (Prickly Poison), Canola crops, remnant vegetation corridors and the Stirling Ranges

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Project 7 – Revegetation: 0.6ha – Fencing: 512m

- High priority for revegetation and fencing

### SITE NO: 70

Date: 9th September 2019

Recorder/s: Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	4109	<b>Connectivity to other bushland (Y/N)</b>	Y – boundary vegetation connected to several remnants
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<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

### Site Vegetation

	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
Cross box							
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground - litter</b>							

<b>Land Formation</b> Cross box	Level	X	Gentle		Moderate	
	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)						

<b>Disturbance/Threats</b> Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Erosion	N	Dieback Disease	N	Weeds	edge

## CURRAWONG — Bushland survey and eco-restoration planning

	Salinity	N				
	Other					

<b>Flora species</b>	

<b>Fauna species</b>	

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
70	1.21ha/1110m	MALLEE HEATH	4 – VERY GOOD	HIGH – RETAIN

PHOTOS & DESCRIPTOR	
	
<p><b>Site 70: Very good condition Mallee heath remnant providing important connectivity</b></p>	

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY
<ul style="list-style-type: none"> <li>➤ High priority to retain due to Very good condition and important connectivity to numerous other remnants</li> <li>➤ High edge to area ratio</li> <li>➤ Fenced</li> </ul>

<b>Site no:</b> 14 & 69			
<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	4110-4112	<b>Connectivity to other bushland (Y/N)</b>	14: N 69: Y – boundary vegetation (Site 70)

<b>Remnant Vegetation—regrowth</b>	X	Cross box	<b>Coordinates</b>	E
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## CURRAWONG — Bushland survey and eco-restoration planning

<b>Restoration/Revegetation</b>		<b>Zone: 50</b>	N
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Site Vegetation							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground</b>							

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

Disturbance/Threats	Stock grazing	Recent Fire (<2 yrs)	Flooding	N
Cross boxes	N	N	N	N
Notes	Erosion	N	Dieback Disease	N
	Salinity	N		
	Other			

Flora species		

Fauna species		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
14 & 69	14: 0.19ha/178m 69: 2.81ha/486m	MALLEE HEATH	4 – VERY GOOD	VERY HIGH

**PHOTOS & DESCRIPTOR**

CURRAWONG — Bushland survey and eco-restoration planning



Site 14 & 69: Proposed revegetation area between sites



Site 14 & 69: Proposed revegetation area between sites



Site 14 & 69: Proposed revegetation area between sites

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

Project 7 – Revegetation: 0.6ha – Fencing: 512m

- Very high priority to amalgamate Site 14 & 69 by fencing and revegetation

**SITE NO: 71**

<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	4120-4122	<b>Connectivity to other bushland (Y/N)</b>	Y - neighbour

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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



## CURRAWONG — Bushland survey and eco-restoration planning

<b>Ground</b>							
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<b>Land Formation</b> Cross box	Level		Gentle	X	Moderate	
	Steep		Very Steep		Precipitous	
Wetlands/Creek present (describe)	No					



<b>Disturbance/Threats</b> Cross boxes	Stock grazing		Recent Fire (<2 yrs)		Flooding	N
	Erosion		Dieback Disease		Weeds	
	Salinity					
	Other	Chemical burning – wind Contour line				

<b>Flora species</b>		

<b>Fauna species</b>		

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
71	4.53ha/632m		4 – VERY GOOD	VERY HIGH

**PHOTOS & DESCRIPTOR**

	
<p><b>Site 71: Unfenced Mallee heath with potential burning from chemical spray drift</b></p>	<p><b>Site 71: 4.53 ha Mallee heath remnant vegetation recommended as a Very high priority to be fenced</b></p>

**CURRAWONG — Bushland survey and eco-restoration planning**



**Site 71: Mallee heath remnant assessed to be in Very good condition**

**MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY**

**Project 11 – Fencing: 632m (4.53ha)**

- Very high priority for fencing due to decent size and Very good condition

**SITE NO: 101**

<b>Date:</b> 9th September 2019		<b>Recorder/s:</b> Melissa Howe, Basil Schur, Angela Sanders	
<b>Photo numbers</b>	4134-4143	<b>Connectivity to other bushland (Y/N)</b>	Y

<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

<b>Site Vegetation</b>							
Cross box	Woodland	Shrubland	Mallee Heath	Heath	Open	Mid dense	Closed
<b>Upper</b>			X		X		
<b>Mid</b>			X			X	
<b>Lower</b>			X		X		
<b>Ground - litter</b>							

<b>Land Formation</b> Cross box	Level		Gentle	X	Moderate	
	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>						

<b>Disturbance/Threats</b> Cross boxes	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
	Erosion	N	Dieback Disease	N	Weeds	N
	Salinity	N				
	Other					
<b>Notes</b>						

## CURRAWONG — Bushland survey and eco-restoration planning

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<b>Flora species</b>		
<i>Eucalyptus vesiculosa</i> (Red Moort) <b>Priority 4</b>		
<i>Melaleuca species</i>		

<b>Fauna species</b>		

### SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS

SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
101	10.41ha/1123m	MOORT WOODLAND & MALLEE HEATH	4 – VERY GOOD	VERY HIGH

### PHOTOS & DESCRIPTOR



**Site 101: 10.41ha Mallee heath remnant vegetation recommended as a Very high priority for fencing**



**Site 101: View of the Stirling Ranges to the west**



**Site 101: Presence of Red Moort (*Eucalyptus vesiculosa*), a Priority 4 conservation species.**



**Site 101: Landholder, Jeremy Spencer, leads the team to the Red Moort (*Eucalyptus vesiculosa*).**

## CURRAWONG — Bushland survey and eco-restoration planning



**Site 101: Mallee heath on the south-eastern corner boundary of the property**



**Site 101: Red Moort (*Eucalyptus vesiculosa*), a Priority 4 conservation species.**

### MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY

**Project 12 – Fencing: 1123m (10.41ha)**

- Very high priority for fencing due to large size, Very good condition and presence of Priority 4 conservation species, *Eucalyptus vesiculosa* (Red Moort)

### SITE NO: 90

**Date:** 9th September 2019

**Recorder/s:** Melissa Howe, Basil Schur, Angela Sanders

<b>Photo numbers</b>	Tammar Wallaby (Monjebup)	<b>Connectivity to other bushland (Y/N)</b>	Y - Connected to Site 45, roadside remnant vegetation & Monjebup North
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<b>Remnant Vegetation</b>	X	Cross box	<b>Coordinates</b>	E
<b>Restoration/Revegetation</b>			<b>Zone: 50</b>	N

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

<b>Land Formation</b>	Level	X	Gentle		Moderate	
Cross box	Steep		Very Steep		Precipitous	
<b>Wetlands/Creek present (describe)</b>	No					

<b>Disturbance/Threats</b>	Stock grazing	N	Recent Fire (<2 yrs)	N	Flooding	N
Cross boxes						

## CURRAWONG — Bushland survey and eco-restoration planning

Notes	Erosion	N	Dieback Disease	N	Weeds	edges
	Salinity	N				
	Other					

<b>Flora species</b>	
<i>Eucalyptus species (mallee)</i>	

<b>Fauna species</b>	
Tammar Wallaby	Malleefowl

SUMMARY OF SURVEY RESULTS AND MANAGEMENT RECOMMENDATIONS				
SITE NO.	AREA (hectares)/ PERIMETER (metres)	VEGETATION TYPE	VEGETATION CONDITION: 1-VERY DEGRADED TO 5- EXCELLENT	PRIORITY FOR MANAGEMENT LOW, MEDIUM, HIGH, VERY HIGH
90	93.96ha/4520m	MALLEE HEATH	4	VERY HIGH

### PHOTOS & DESCRIPTOR



**Tammar Wallaby in Mallee heath vegetation ion Monjebup Reserve adjacent to Currawong (Photo: Angela Sanders)**

MANAGEMENT RECOMMENDATIONS AND/OR REASON FOR PRIORITY
<ul style="list-style-type: none"> <li>➤ Very high priority to retain</li> <li>➤ Tammar Wallaby and Malleefowl have been sighted in this remnant vegetation</li> <li>➤ Landholder has indicated interest in some associating this portion of bushland to the Bush Heritage Reserve nearby ( North Monjebup)</li> <li>➤ Project site 0.881 km required to re-fence southern edge of this remnant (Project 14)</li> </ul>

## REFERENCES

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- Beard, J.S., Beeston, G.R., Harvey, J.M., Hopkins, A.J.M., Shepherd, D.P. (2013). *The Vegetation of Western Australia at the 1:3,000,000 scale. Explanatory memoir* (2<sup>nd</sup> ed.). Conservation Science Western Australia Vol 9:1. The Government of Western Australia.
- Bureau of Meteorology. (2019). Accessed 25/09/2019 at: <http://www.bom.gov.au/climate/data/?ref=ftf>
- Bush Heritage Australia (2013). *Currawong Property Assessment*. Provided by Angela Sanders, Ecologist for Bush Heritage Australia.
- Casson, N., Downes, S. and Harris, A. (2009). *Native Vegetation Condition Assessment and Monitoring Manual for Western Australia*. Prepared for The Native Vegetation Integrity Project
- Commonwealth Scientific and Industrial Research Organisation (CSIRO). *The Atlas of Living Australia*. (2019). Spatial portal. Accessed on: 16/09/2019 at [http://spatial.ala.org.au/?layers=ibra7\\_regions](http://spatial.ala.org.au/?layers=ibra7_regions)
- Commonwealth Scientific and Industrial Research Organisation (CSIRO). *The Atlas of Living Australia*. (2019). Spatial portal. Accessed on: 16/09/2019 at [http://spatial.ala.org.au/?layers=ibra7\\_subregions](http://spatial.ala.org.au/?layers=ibra7_subregions)
- Gondwana Link. (2008). *Fitz-Stirling Functional Landscape Plan*. Gondwana Link Ltd. Accessed on 26/09/2019 at: [http://www.gondwanalink.org/pdf/Fitz-Stirling\\_FLP.pdf](http://www.gondwanalink.org/pdf/Fitz-Stirling_FLP.pdf)
- Kaesehagen, D. (1994) Vegetation Condition Mapping. In: Burke, G. (Ed.) *Invasive weeds and regenerating ecosystems in Western Australia*. Proceedings of the conference held at Murdoch University.
- Keighery, B.J. (1994) *Bushland plant survey. A guide to plant community survey for the community*. Wildflower Society of WA (Inc.), Nedlands, Western Australia.
- Landgate. (2019). *Landgate Map Viewer Plus*. Accessed 16/09/2019 at: <https://maps.landgate.wa.gov.au/maps-landgate/registered> Government of Western Australia
- Shepherd, D P, Beeston, G R, and Hopkins, A J. (2002). *Native vegetation in Western Australia: extent, type and status*. Department of Agriculture and Food, Western Australia. Report 249.
- South Coast Rivercare. (2008). *Pallinup River*. <http://www.rivercare.southcoastwa.org.au/infodata/pallinupc/pallinupr/pallinup.html#2008>
- Trudgen, M.E. (1991) Vegetation Condition Scale. In: National Trust (WA) 1993 *Urban Bushland Policy*. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth, Western Australia.

## CURRAWONG — Bushland survey and eco-restoration planning

### APPENDIX 1 – REMNANT VEGETATION SITES ON CURRAWONG

SITE ID	AREA (ha)	Fencing (m)(boundary length excluded)	SITE ID	AREA (ha)	Fencing (m)(boundary length excluded)
1	8.68	2043	54	0.09	116
2	0.93	692	55	2.89	1404
3	1.49	969	56	0.38	310
4	0.31	251	57	0.86	471
5	0.55	385	58	0.95	439
6	0.29	210	59	8.86	1528
7	1.42	1012	60	1.99	1499
8	1.62	1324	61	0.25	246
9	0.72	666	62	1.29	501
10	0.59	534	63	0.72	912
11	0.15	162	64	0.51	344
12	0.09	132	65	0.62	434
13	0.11	190	66	6.67	2217
14	0.19	178	67	0.43	248
15	0.16	234	68	0.28	158
16	0.17	212	69	2.81	486
17	0.19	185	70	1.21	1110
18	0.04	115	71	4.53	632
19	0.05	124	72	0.04	63
20	0.01	49	73	2.62	478
21	0.02	73	74	6.40	1006
22	0.02	58	75	1.77	1112
23	0.02	62	76	0.24	135
24	0.04	132	77	1.51	448
25	0.03	100	78	0.31	229
26	0.03	115	79	0.44	405
27	0.03	97	80	3.52	1867
28	0.02	77	81	0.96	636
29	0.02	57	82	2.19	807
30	0.02	69	83	0.22	223
31	0.07	114	84	5.67	1248
32	0.04	89	85	0.52	330
33	0.06	99	86	0.27	265
34	0.06	104	87	0.57	348
35	0.18	175	88	0.51	652
36	0.03	64	89	1.74	652
37	0.15	159	90	93.96	4520
38	0.06	102	91	1.64	515
39	0.02	68	92	0.28	223

## CURRAWONG — Bushland survey and eco-restoration planning

40	0.89	1129	93	1.27	443
41	0.83	790	94	9.26	1305
42	0.71	841	95	1.89	1026
43	0.50	655	96	0.24	212
44	0.49	549	97	0.68	309
45	14.59	1279	98	3.19	2139
46	0.37	283	99	1.39	648
47	0.36	228	100	1.90	489
48	0.15	163	101	10.41	1123
49	0.08	114	102	1.29	583
50	0.06	117	103	0.94	566
51	0.14	184	104	37.41	5602
52	0.07	109	105	0.15	152
53	0.03	72	106	0.06	91
<b>TOTAL REMNANT VEGETATION MAPPED: 268.75 hectares</b>					

## APPENDIX 2: 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*).



APPENDIX 3: FLORA SPECIES RECORDED ON THE PROPERTY



Figure 1: *Hakea laurina* (Pincushion Hakea)



Figure 2: *Banksia media* (Southern Plains Banksia)



Figure 3: *Banksia media* (Southern Plains Banksia)



Figure 4: *Hakea verrucosa*

Photos: Jane Thompson



Figure 5: *Leptospermum ?maxwellii*



Figure 6: *Rhadinothamnus rudis*



Figure 7: *Thryptomene australis*



Figure 8: *Rinzia ?longifolia* - Priority 4 flora species

Photos: Jane Thompson