



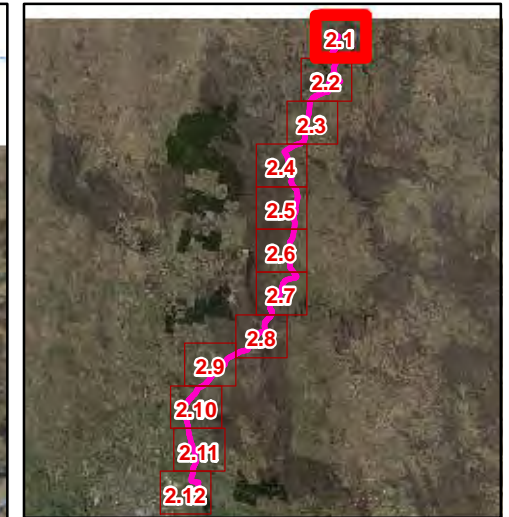
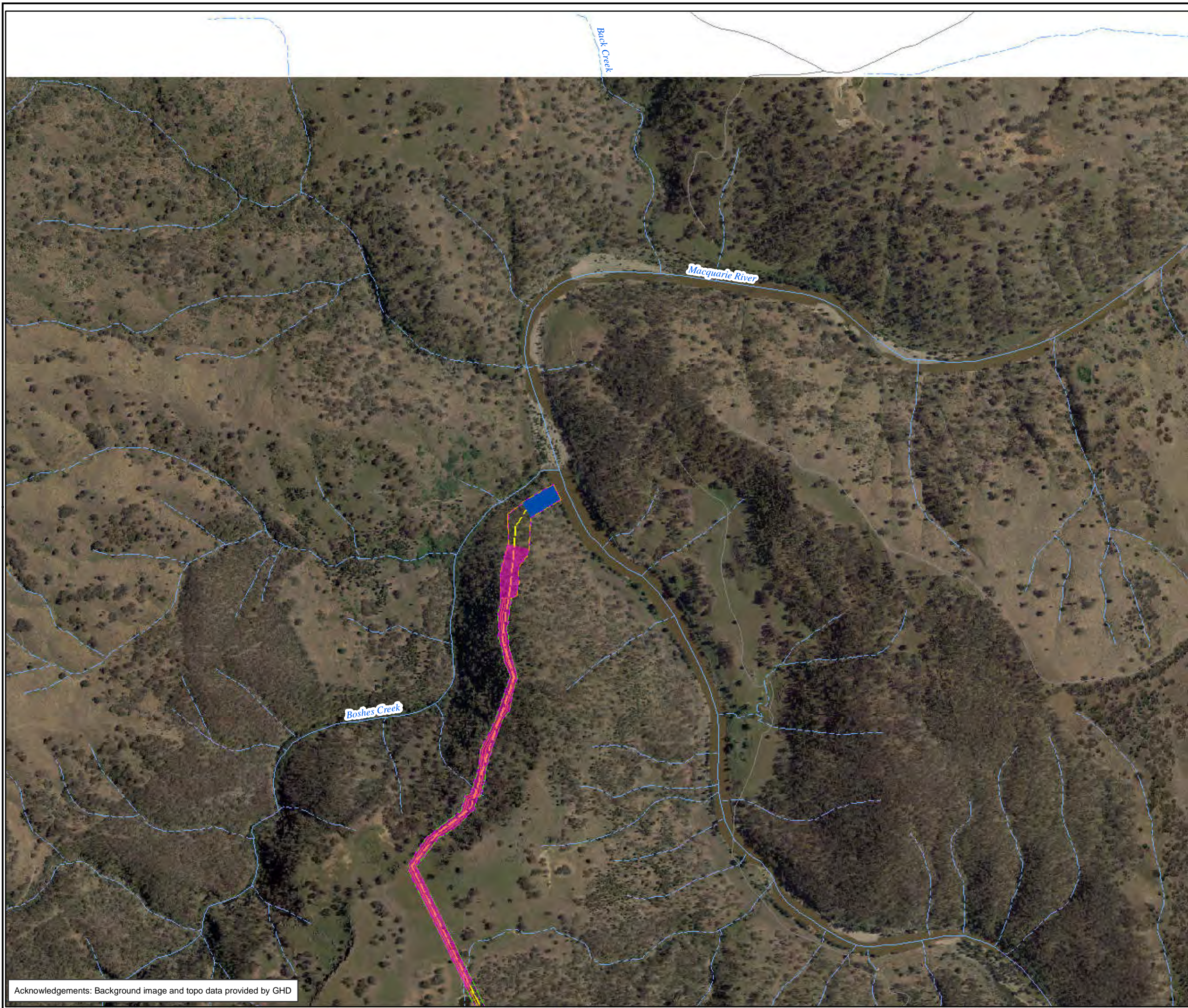
The Macquarie River to Orange Pipeline Project

Terrestrial Flora & Fauna Assessment

Volume 3: Figures 6.1 to 11.2 and Appendix 1 to 4

A report prepared for Orange City Council


Final – 3 August 2012




- Legend**
- Vegetation Covered by the TSC Act
- White Box Yellow Box Blakely's Red Gum Woodland
- Proposed Impact Areas
- Pipeline Easement
 - Proposed Construction Access Zone
 - Proposed Construction Clearing Zone
 - Construction Compound Location
 - Proposed Pump Station
 - Existing Electricity Line
 - Proposed Electricity Line

Figure 6.1: Vegetation Communities within the Study Area covered by the TSC Act

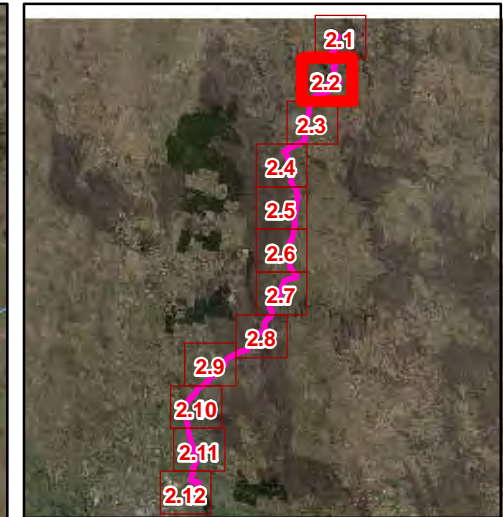
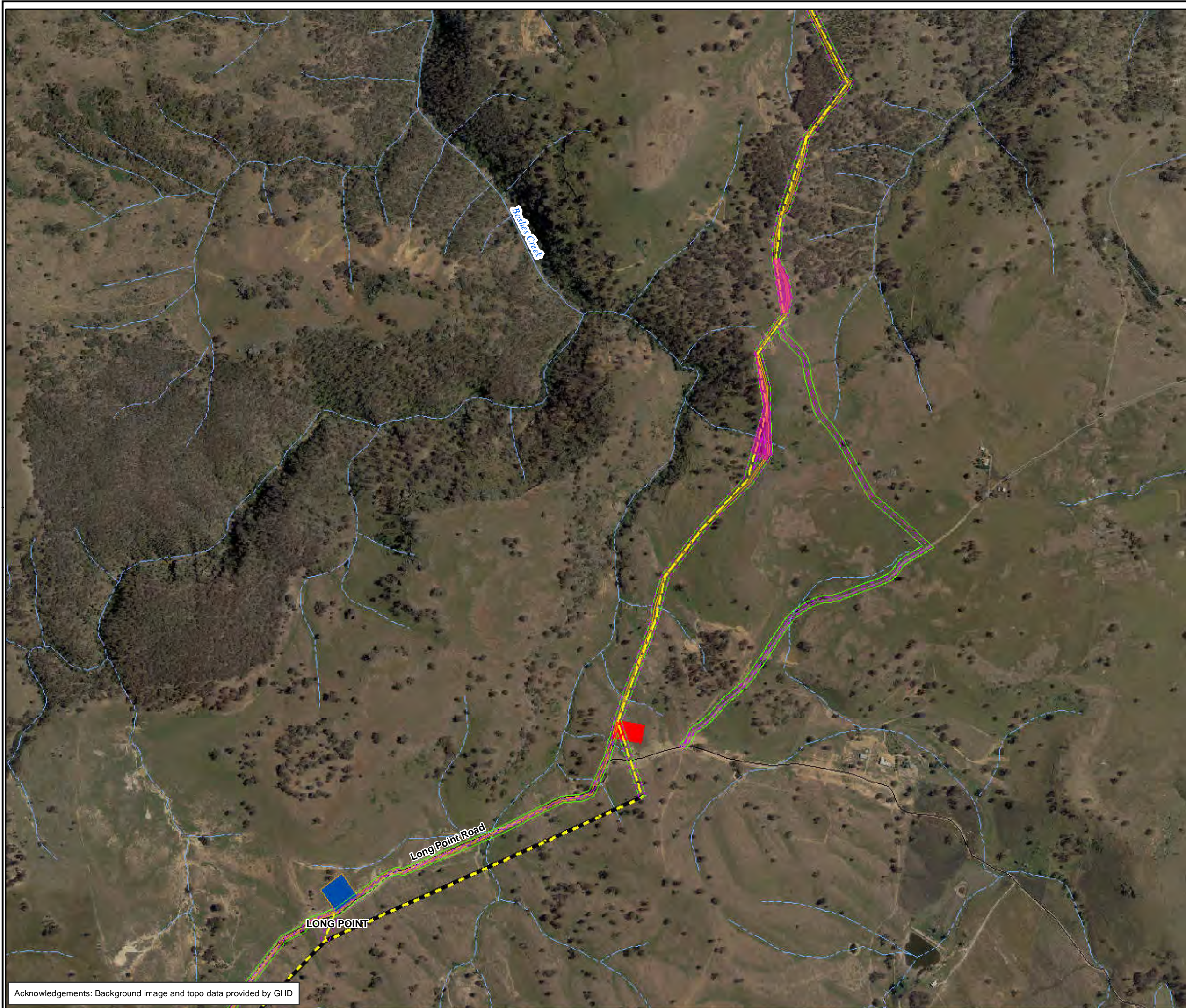
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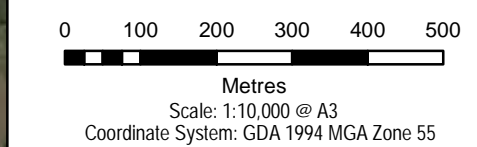



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 - Construction Compound Location
 - Proposed Pump Station
 - Existing Electricity Line
 - Proposed Electricity Line

Figure 6.2: Vegetation Communities within the Study Area covered by the TSC Act

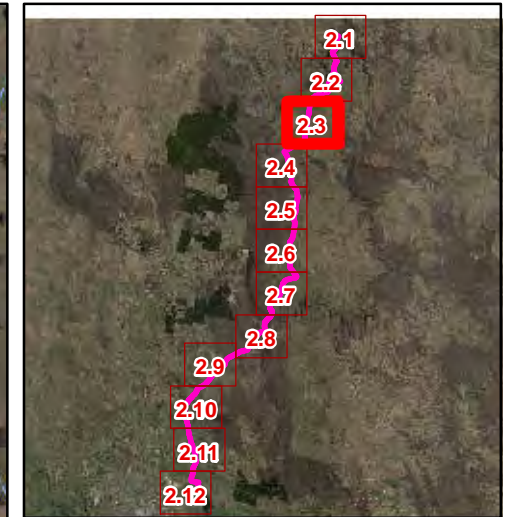



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Vegetation Covered by the TSC Act


- White Box Yellow Box Blakely's Red Gum Woodland

Proposed Impact Areas

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- Proposed Construction Access Zone
- Proposed Construction Clearing Zone
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- Proposed Electricity Line


Figure 6.3: Vegetation Communities within the Study Area covered by the TSC Act

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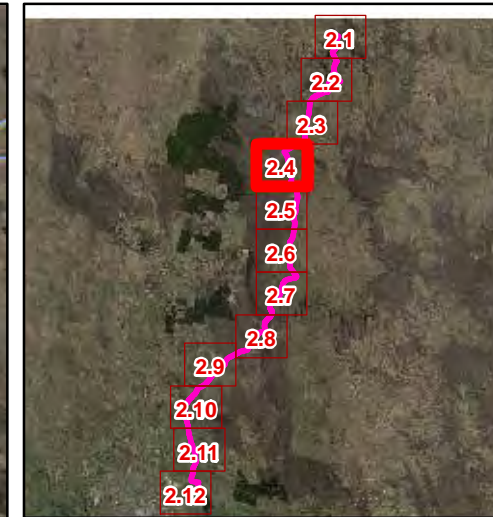
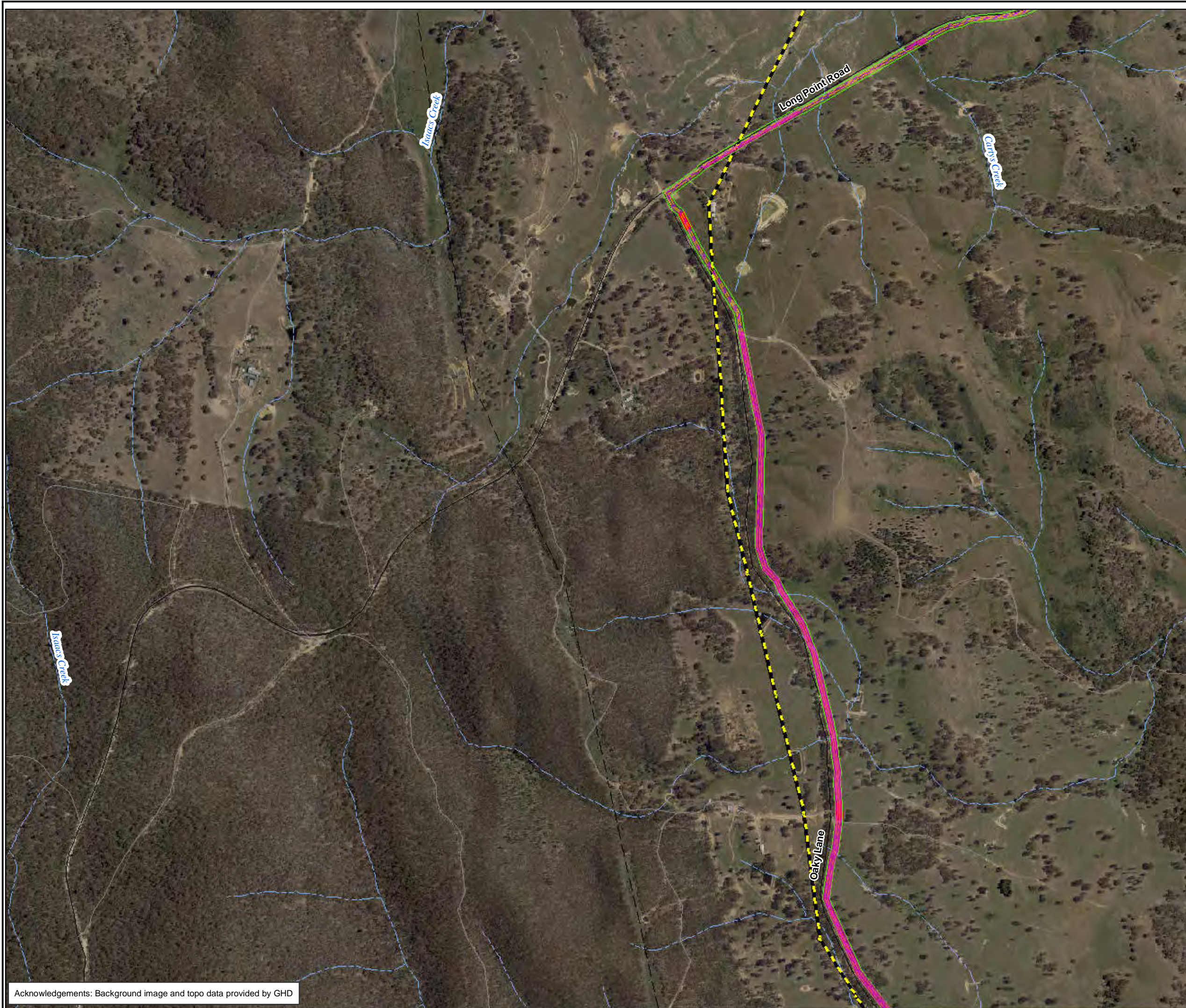
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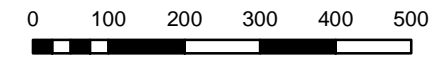


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 - Construction Compound Location
 - Proposed Pump Station
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 - Proposed Electricity Line

Figure 6.4: Vegetation Communities within the Study Area covered by the TSC Act



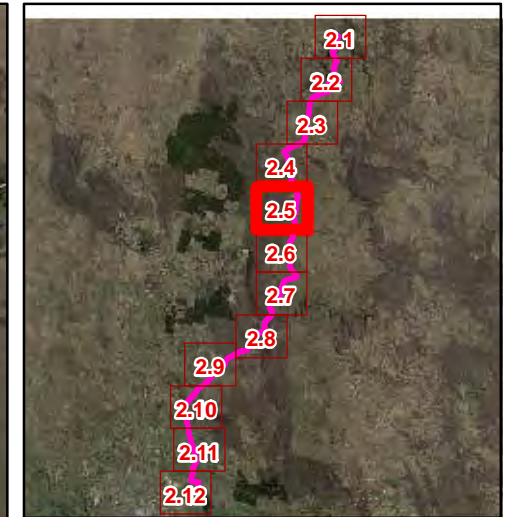
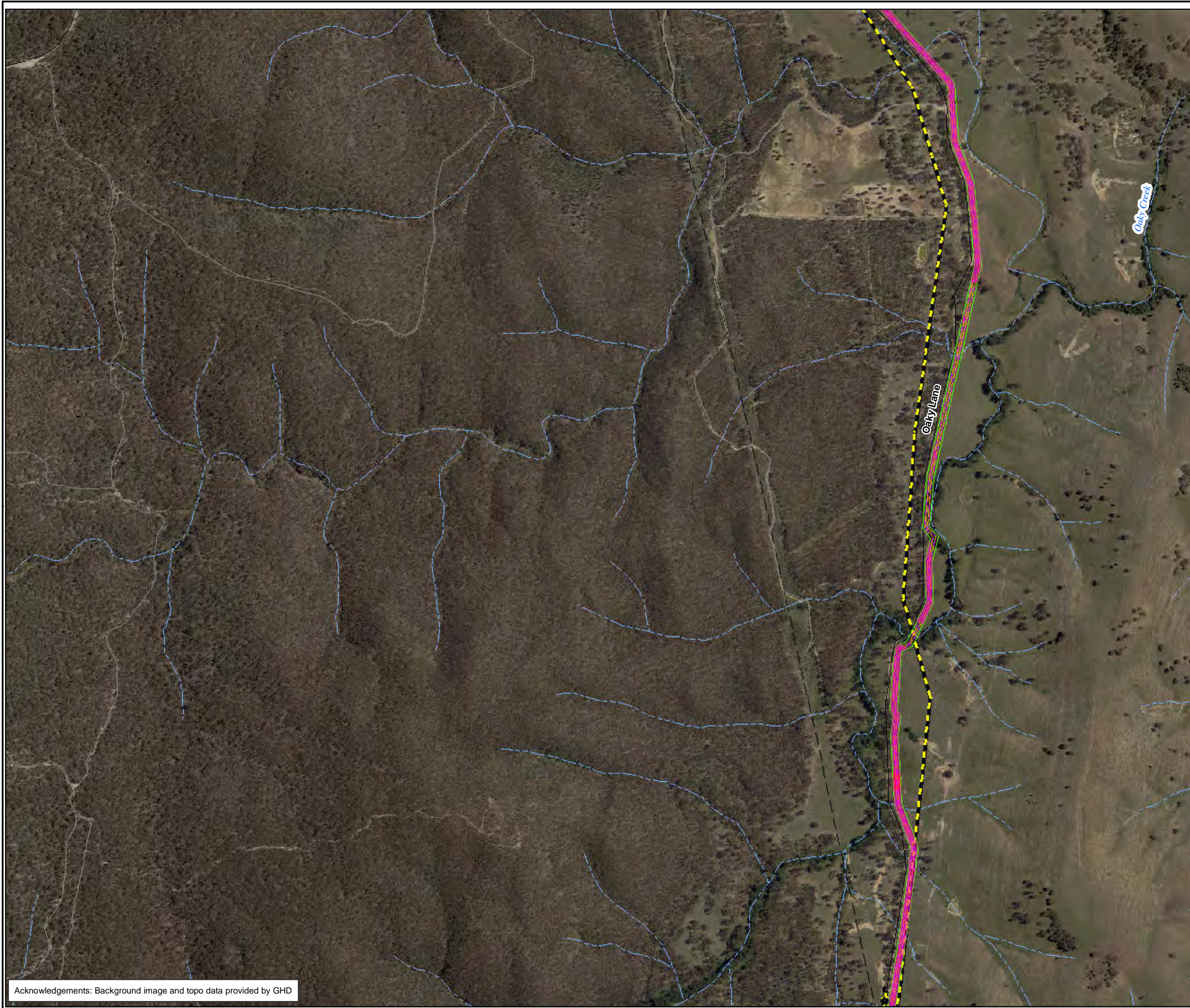
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Legend

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Proposed Impact Areas

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Figure 6.5: Vegetation Communities within the Study Area covered by the TSC Act

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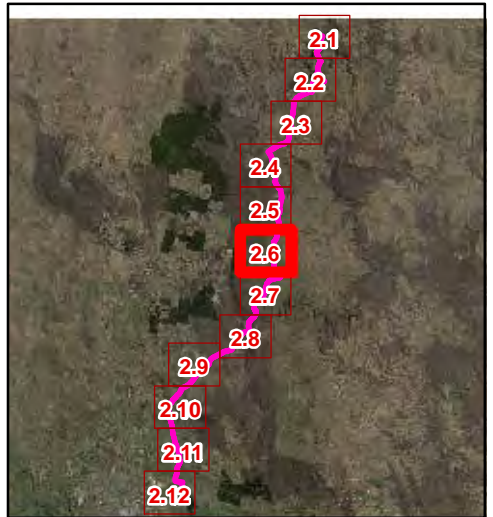
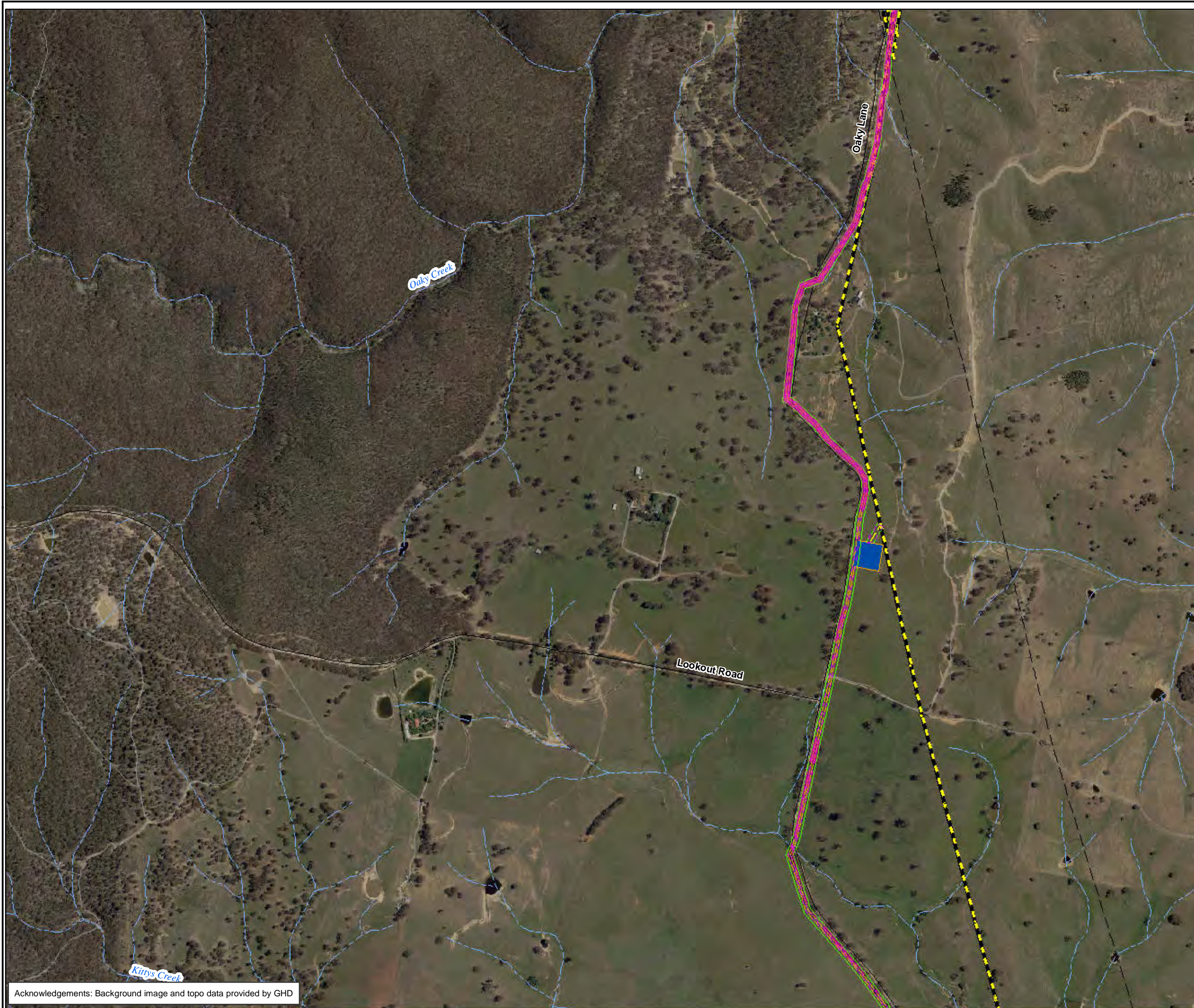
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Figure 6.6: Vegetation Communities within the Study Area covered by the TSC Act

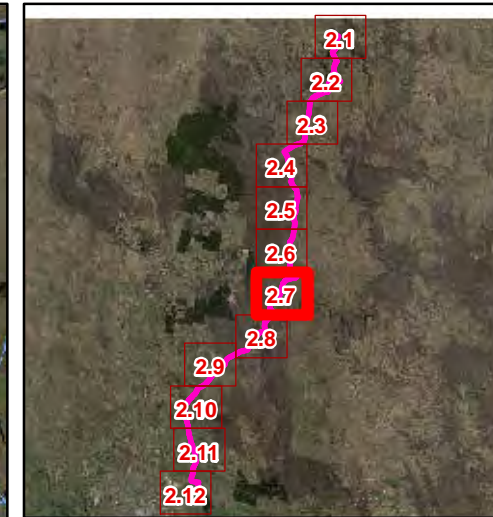
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Figure 6.7: Vegetation Communities within the Study Area covered by the TSC Act

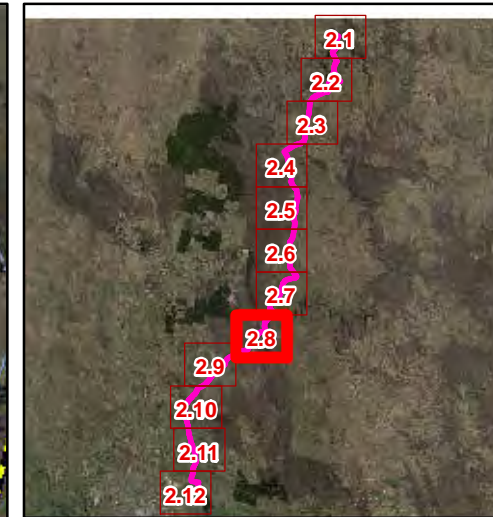
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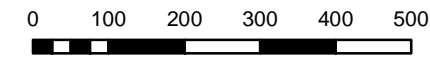


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 - Proposed Electricity Line

Figure 6.8: Vegetation Communities within the Study Area covered by the TSC Act



Metres
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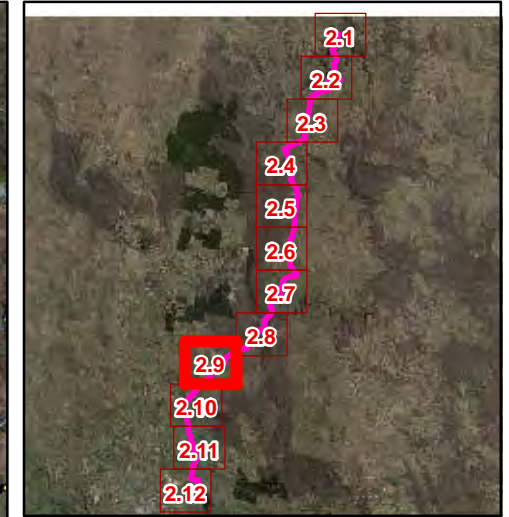
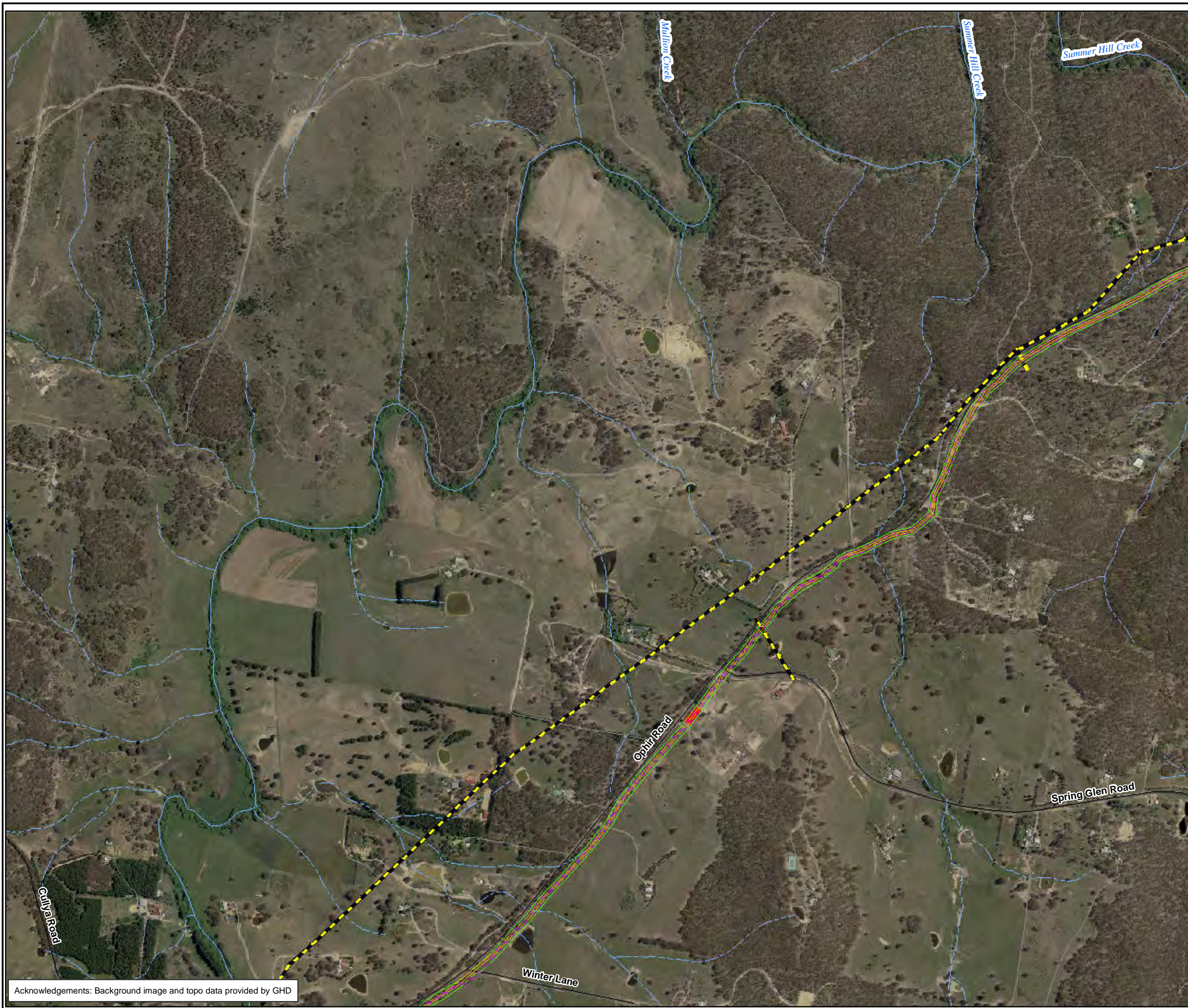
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Legend

Vegetation Covered by the TSC Act


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Figure 6.9: Vegetation Communities within the Study Area covered by the TSC Act

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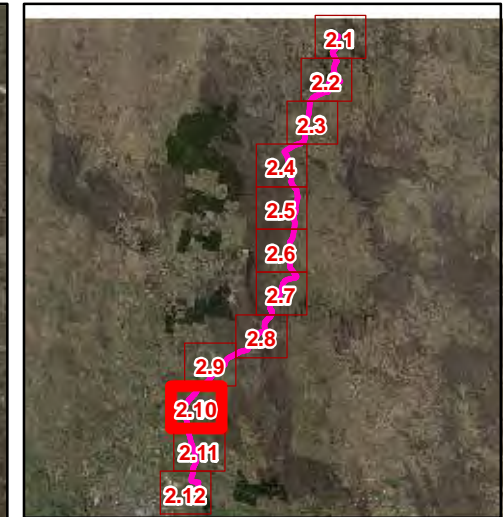
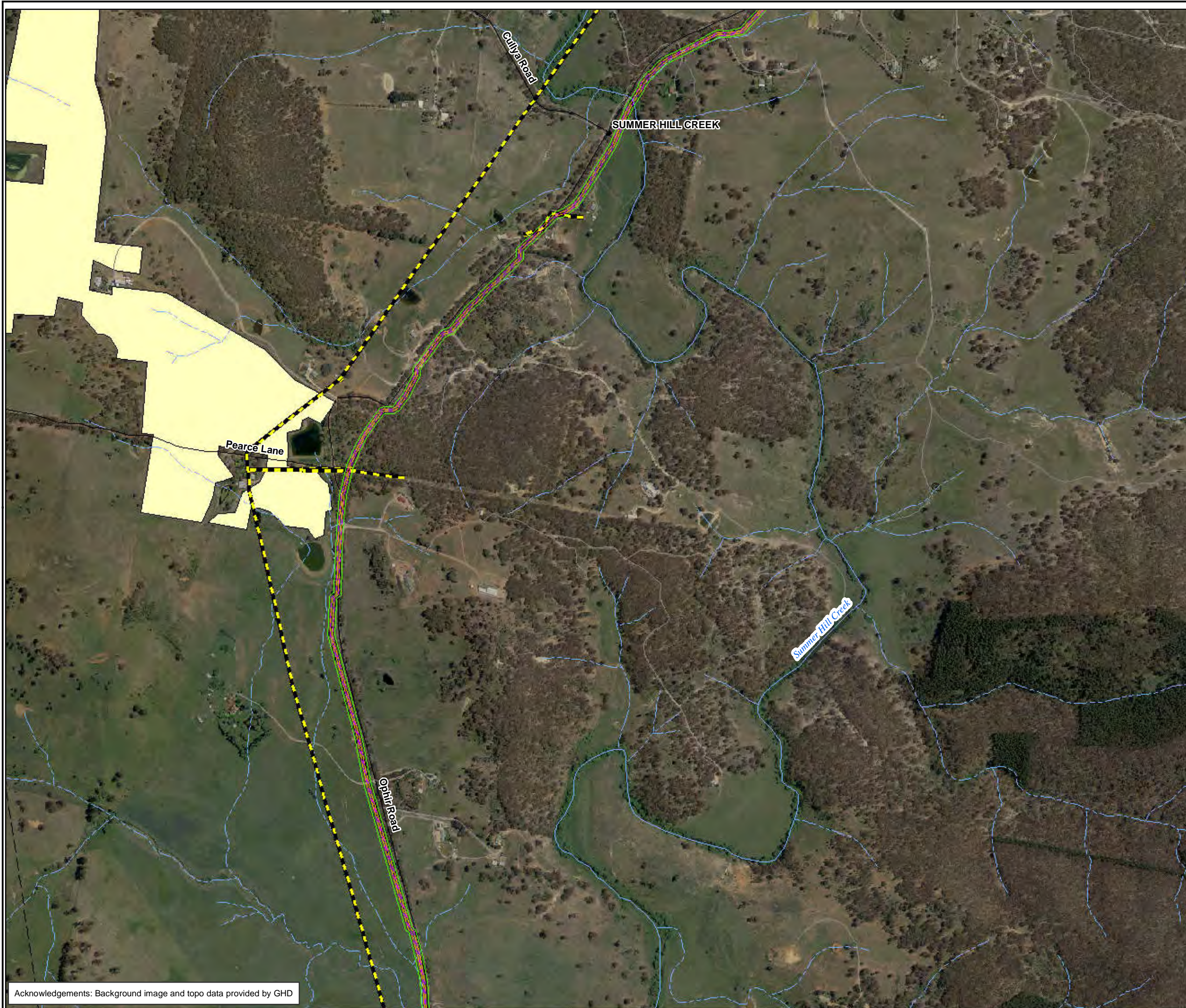
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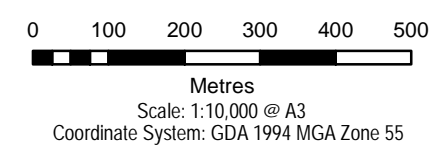


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Figure 6.10: Vegetation Communities within the Study Area covered by the TSC Act

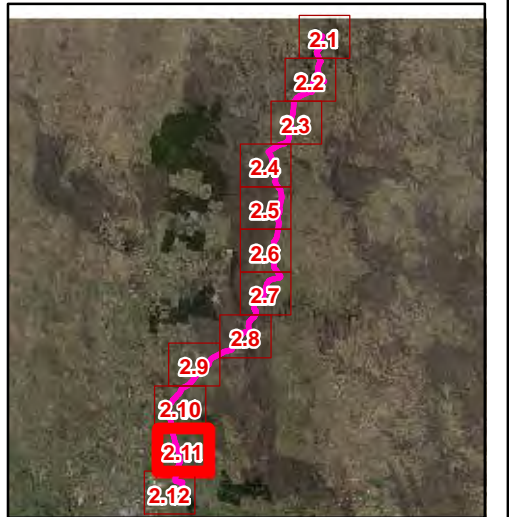


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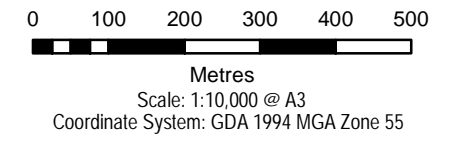
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Figure 6.11: Vegetation Communities within the Study Area covered by the TSC Act



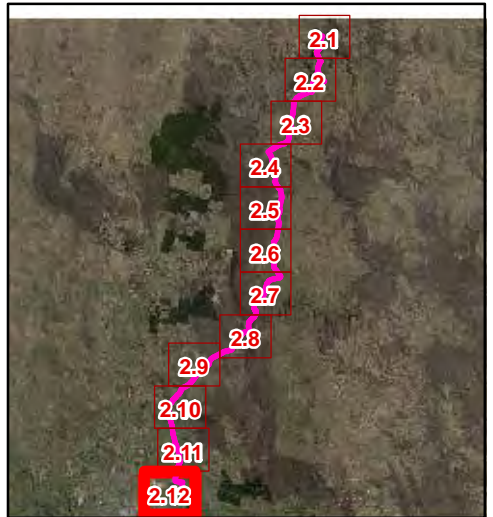
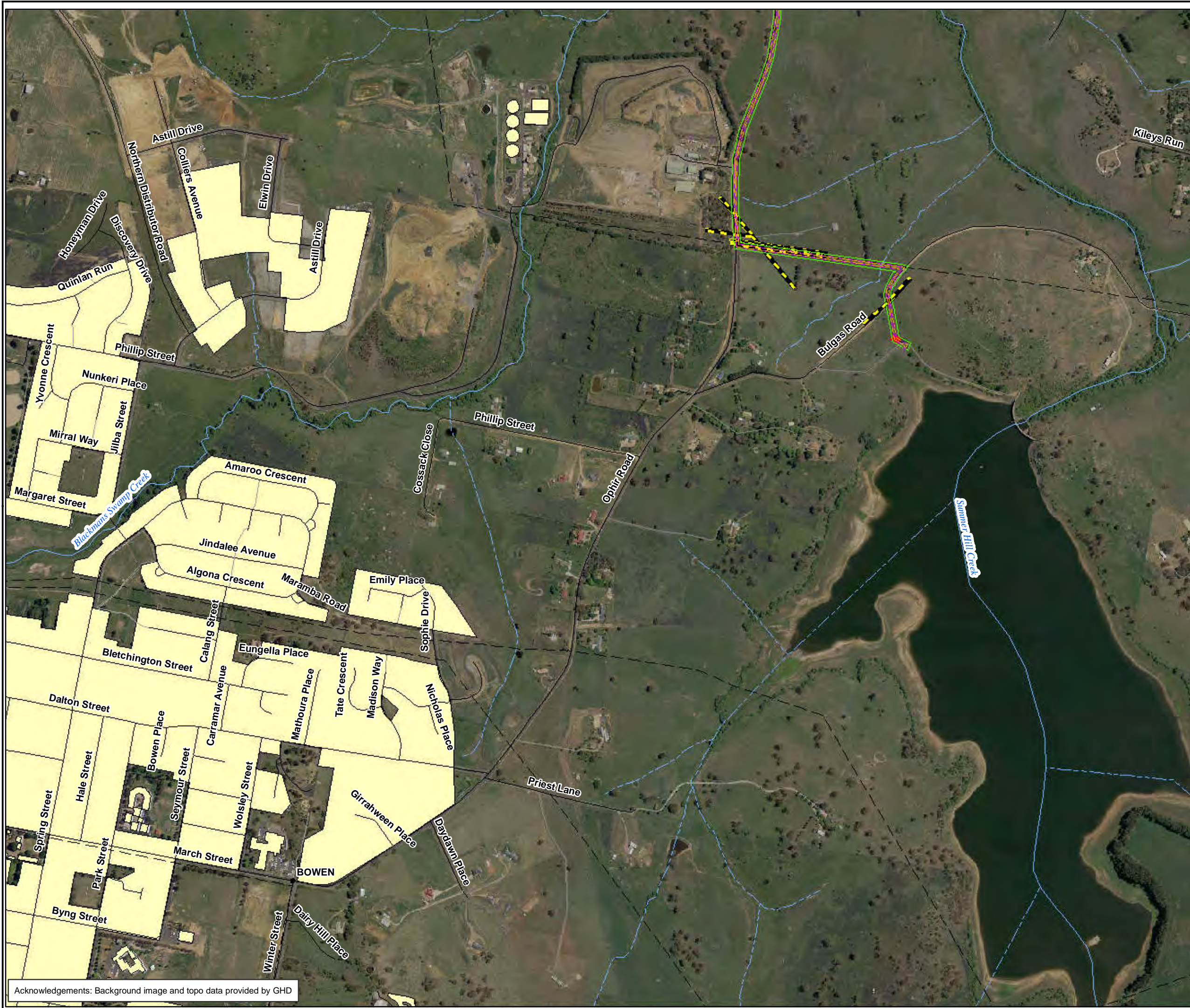
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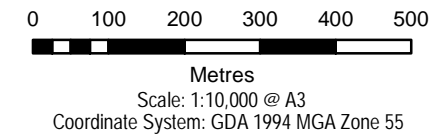
Vegetation Covered by the TSC Act

- White Box Yellow Box Blakely's Red Gum Woodland

Proposed Impact Areas

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- Construction Compound Location
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- Proposed Electricity Line

Figure 6.12: Vegetation Communities within the Study Area covered by the TSC Act

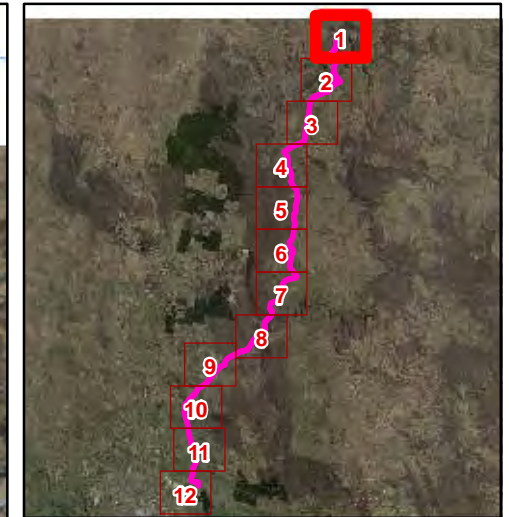
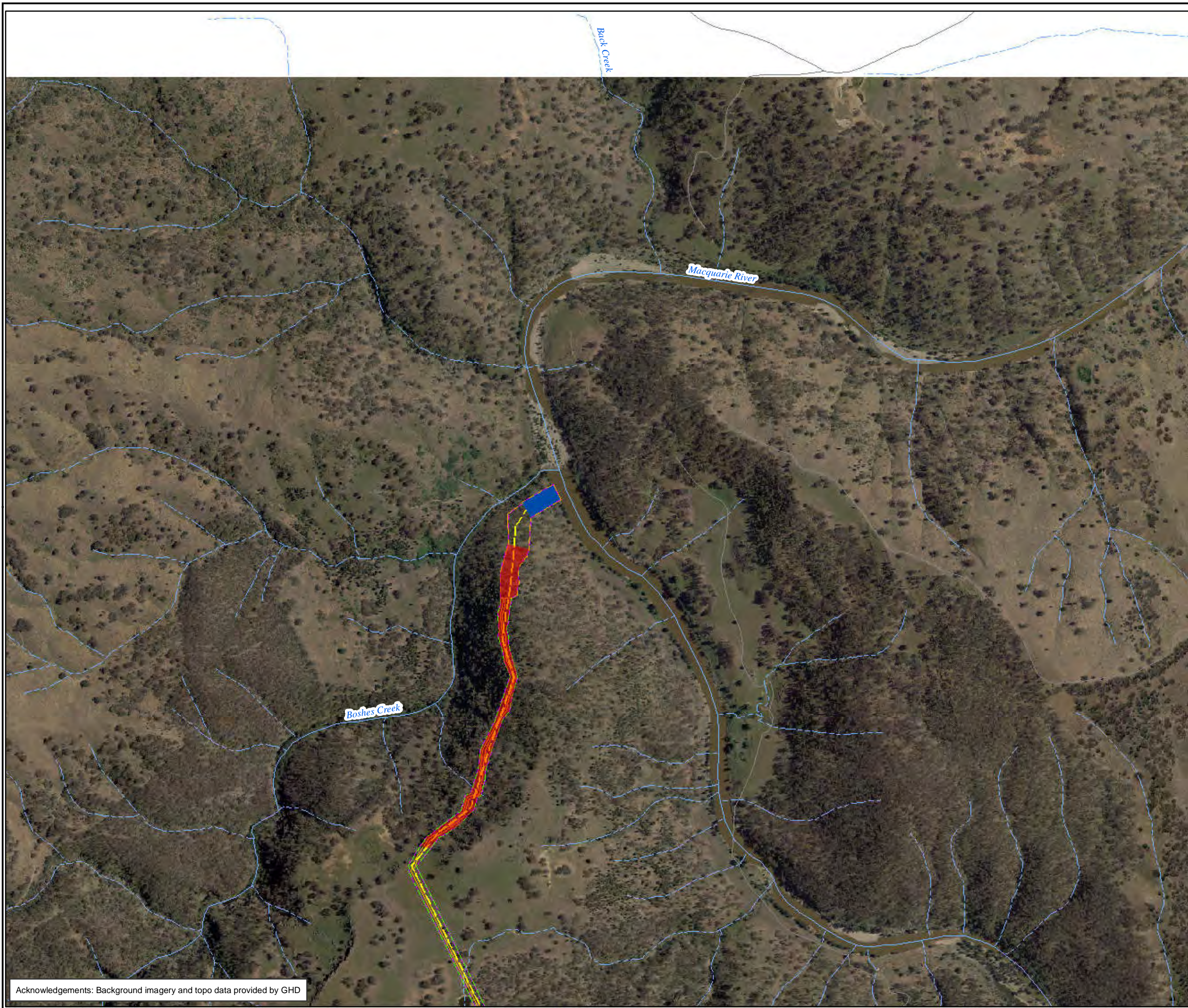


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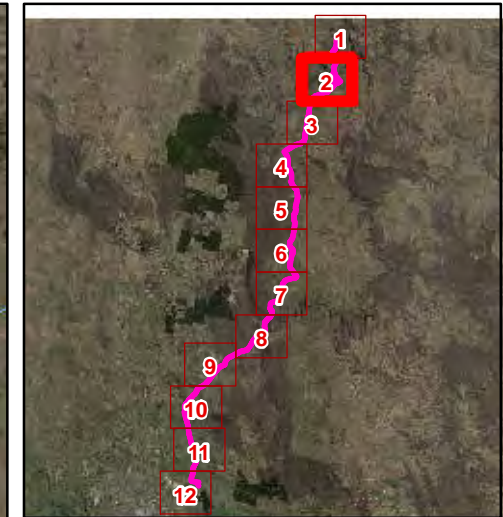
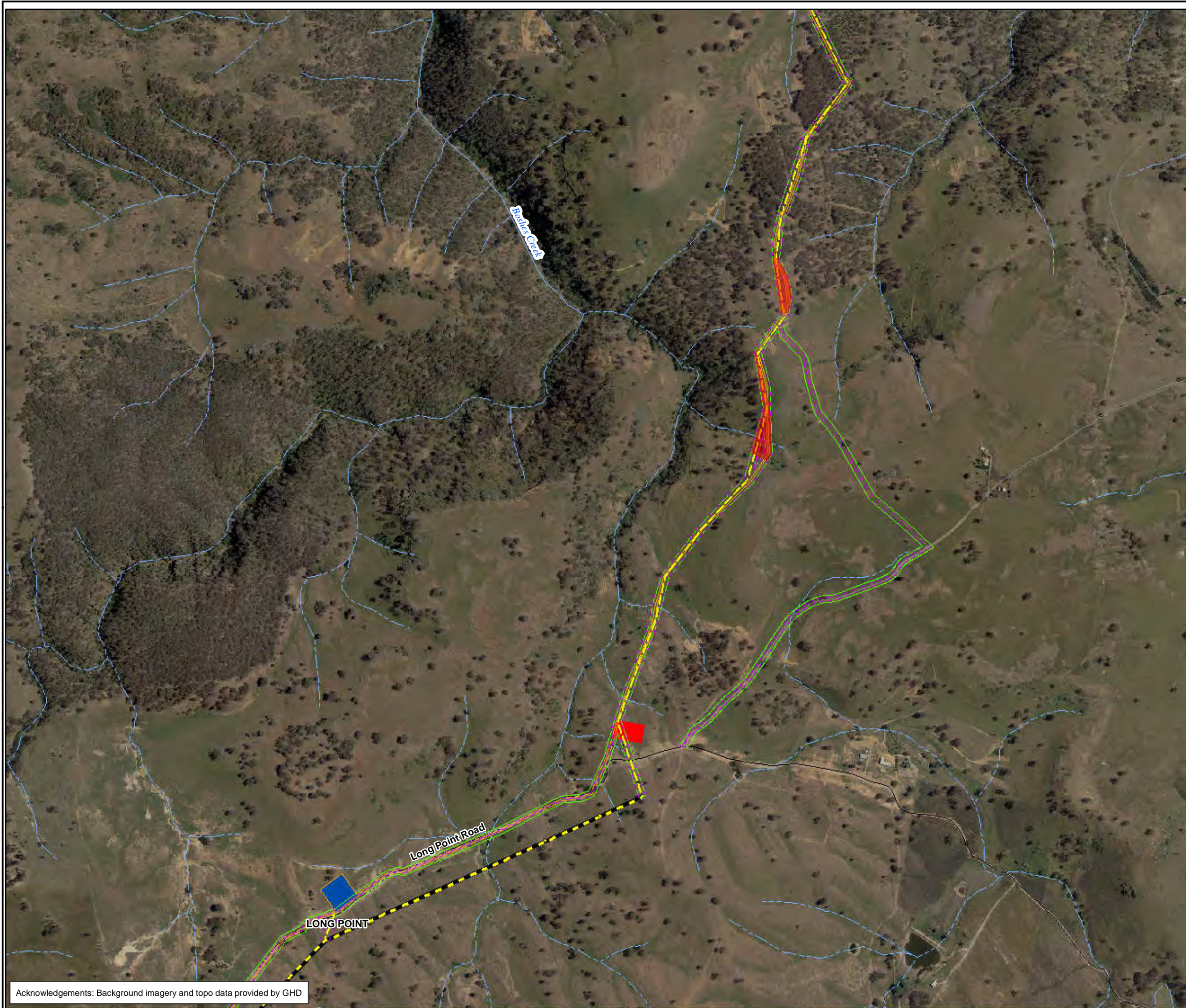
Figure 7.1: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

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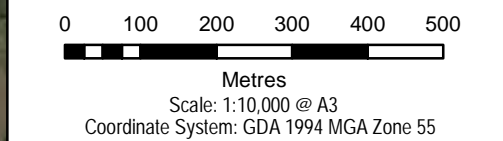
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Figure 7.2: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

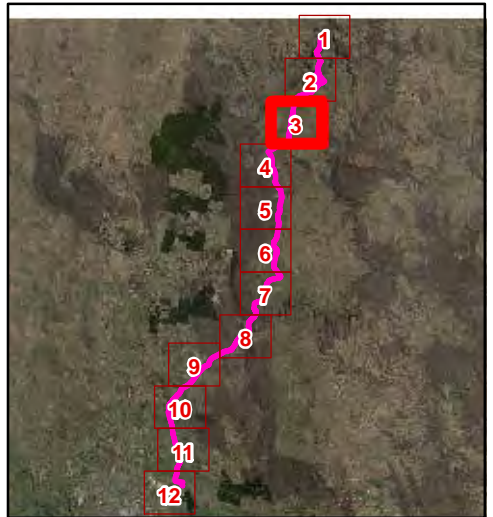


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Figure 7.3: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

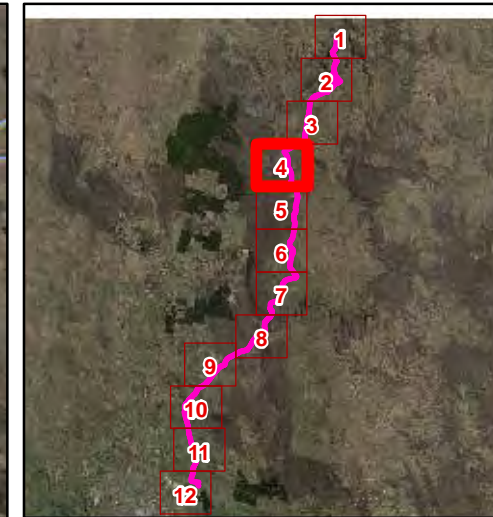
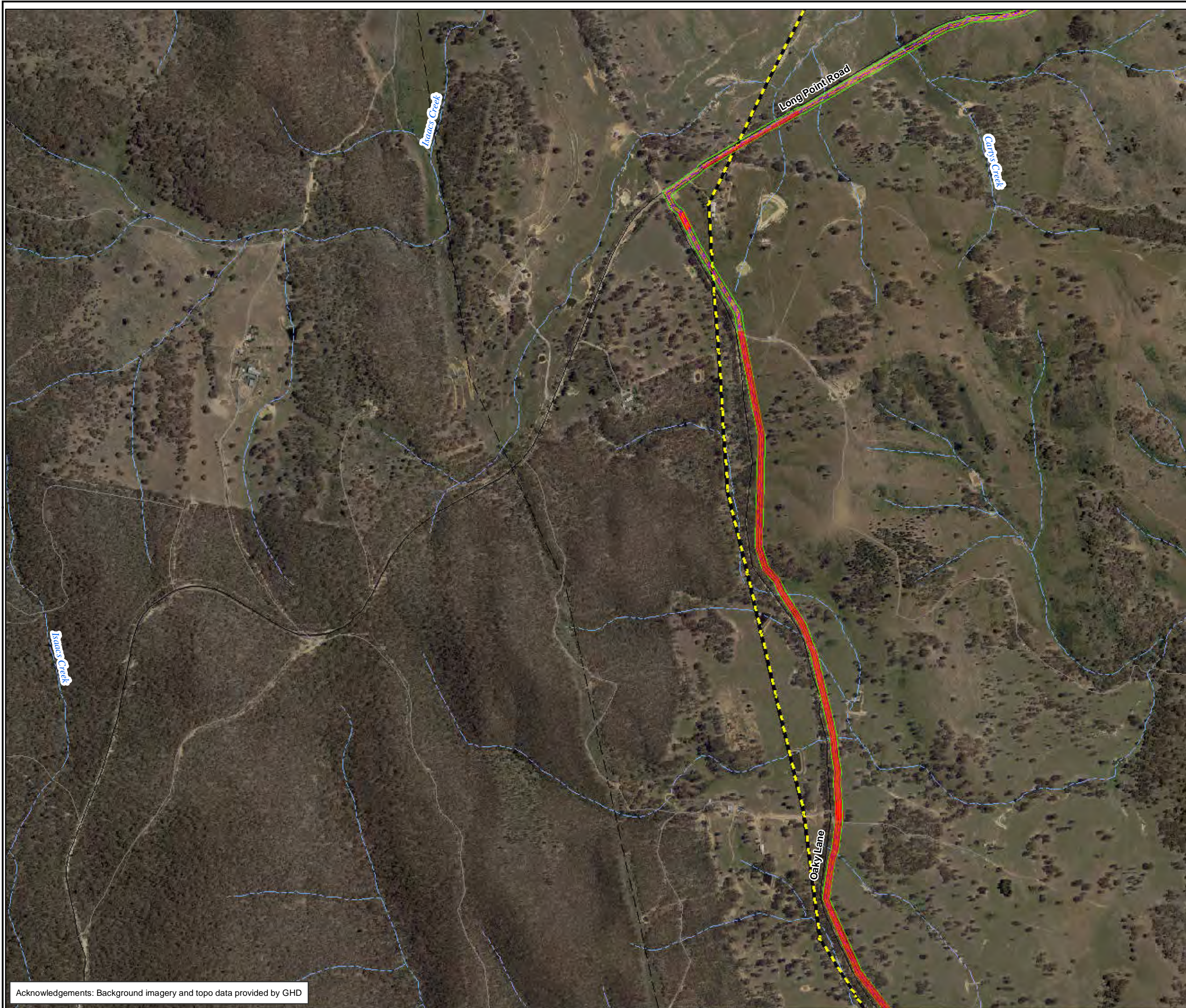
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Figure 7.4: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

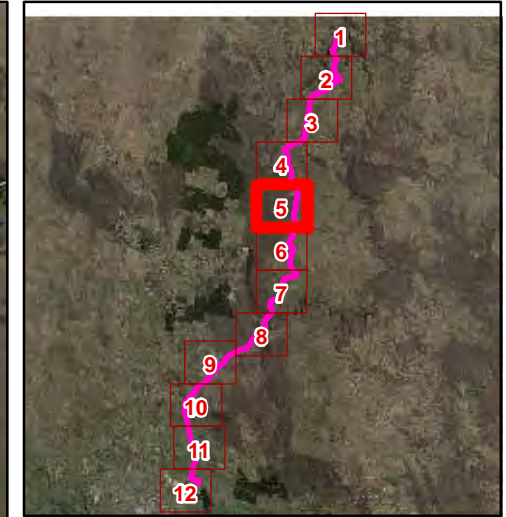
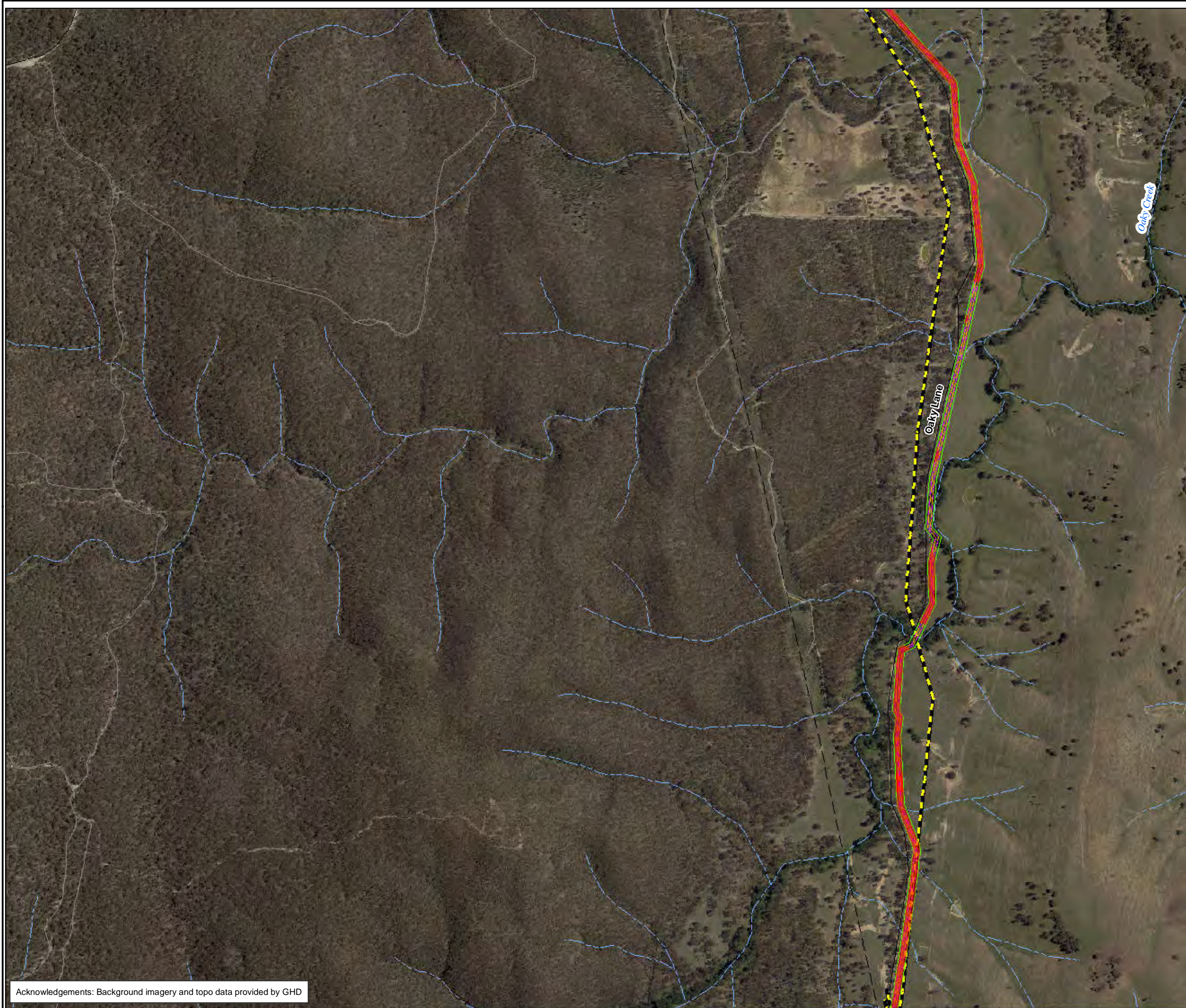
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Figure 7.5: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

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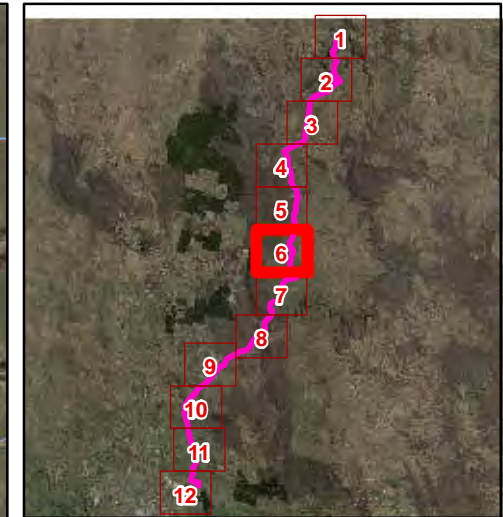
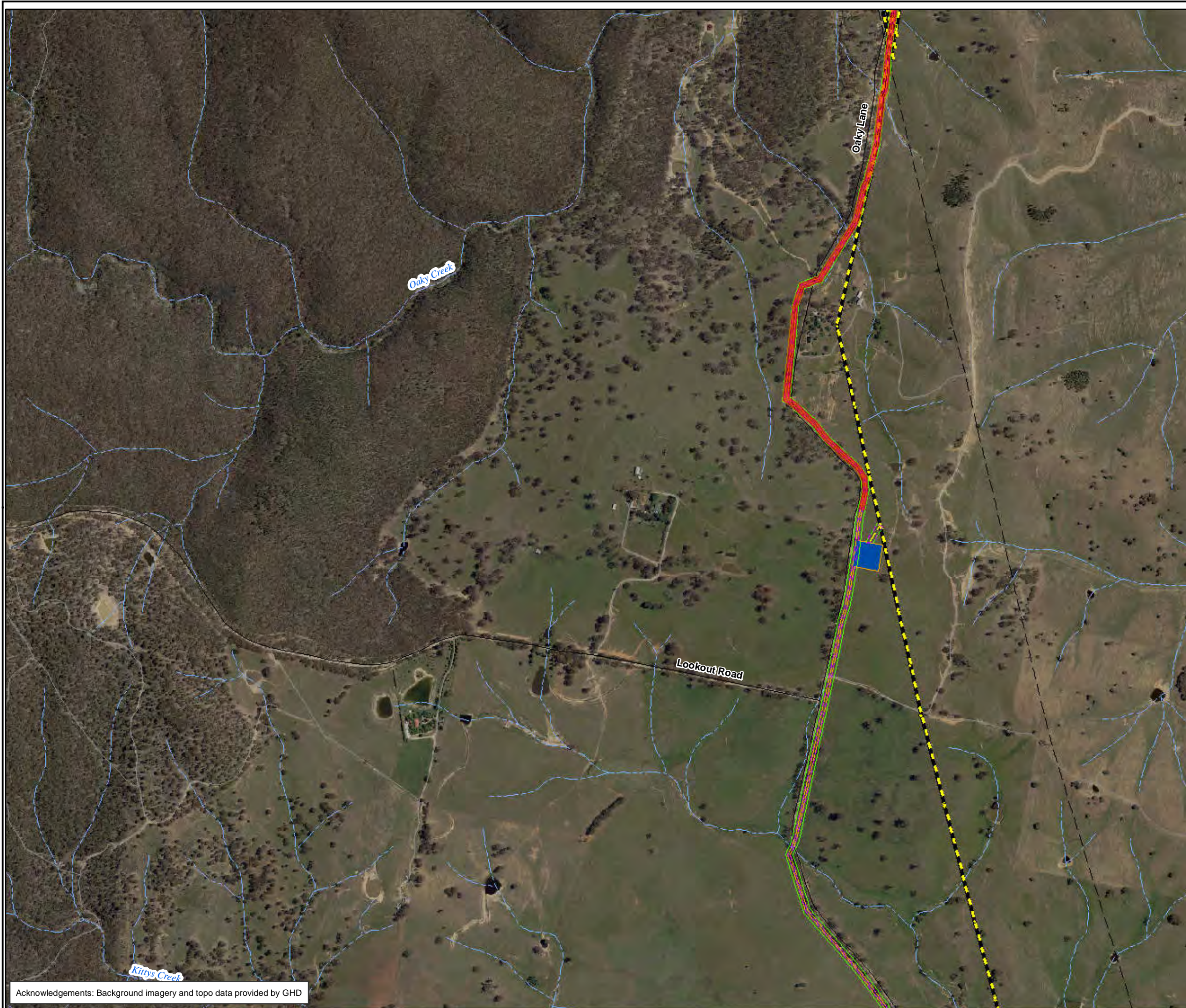

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 - Proposed Electricity Line


Figure 7.6: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

0 100 200 300 400 500
 Metres
 Scale: 1:10,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

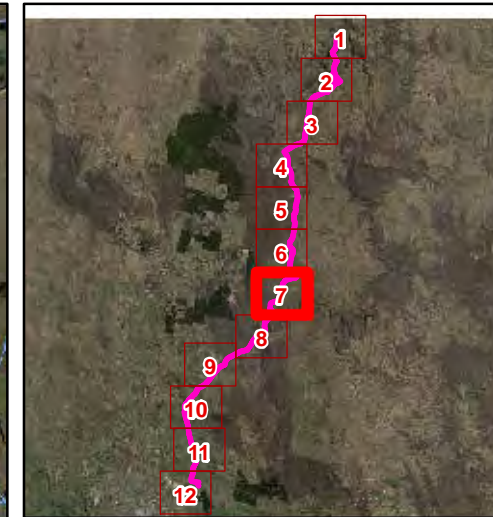

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Acknowledgements: Background imagery and topo data provided by GHD



- Legend**
- Vegetation Covered by the EPBC Act
- White Box Yellow Box Blakely's
 - Red Gum Grassy Woodland and derived native grasslands
- Proposed Impact Areas
- Pipeline Easement
 - Proposed Construction Access Zone
 - Proposed Construction Clearing Zone
 - Construction Compound Location
 - Proposed Pump Station
 - Existing Electricity Line
 - Proposed Electricity Line

Figure 7.7: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

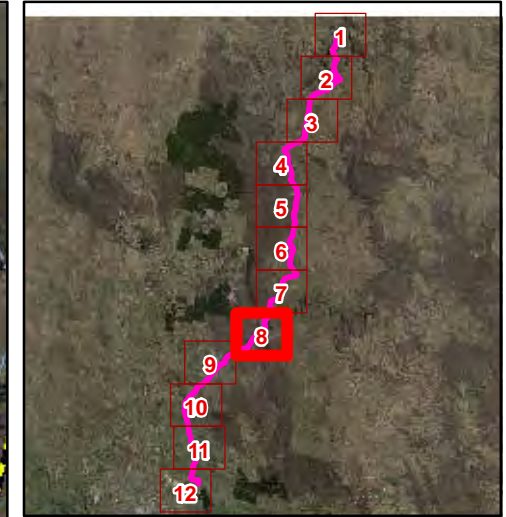
0 100 200 300 400 500
 Metres
 Scale: 1:10,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

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Acknowledgements: Background imagery and topo data provided by GHD



- Legend**
- Vegetation Covered by the EPBC Act
- White Box Yellow Box Blakely's
 - Red Gum Grassy Woodland and derived native grasslands
- Proposed Impact Areas
- Pipeline Easement
 - Proposed Construction Access Zone
 - Proposed Construction Clearing Zone
 - Construction Compound Location
 - Proposed Pump Station
 - Existing Electricity Line
 - Proposed Electricity Line

Figure 7.8: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

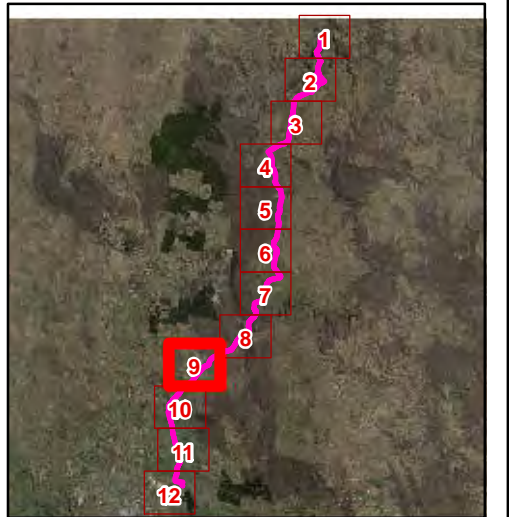
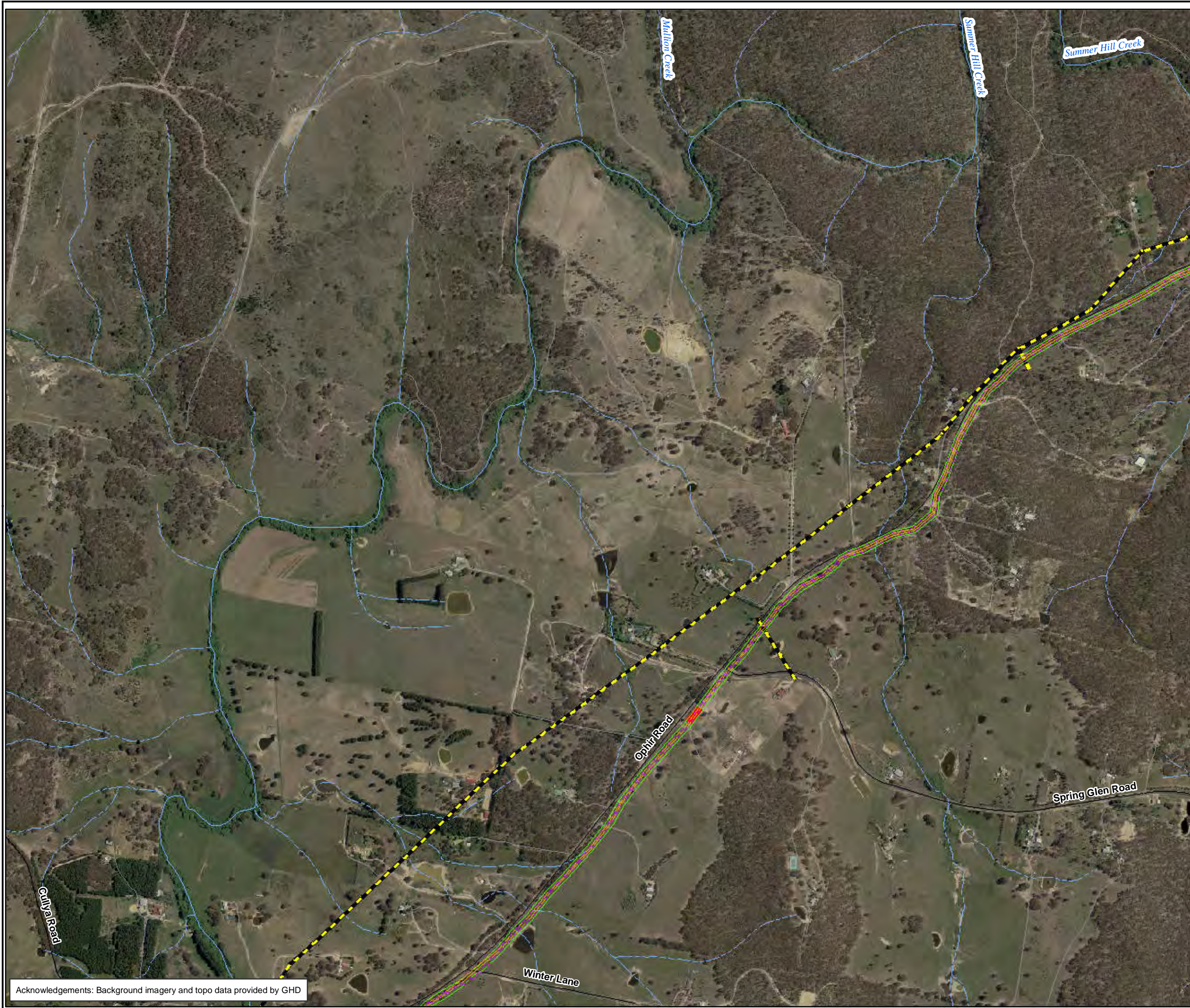
0 100 200 300 400 500
 Metres
 Scale: 1:10,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

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Acknowledgements: Background imagery and topo data provided by GHD




- Legend**
- Vegetation Covered by the EPBC Act
- White Box Yellow Box Blakely's
 - Red Gum Grassy Woodland and derived native grasslands
- Proposed Impact Areas
- Pipeline Easement
 - Proposed Construction Access Zone
 - Proposed Construction Clearing Zone
 - Construction Compound Location
 - Proposed Pump Station
 - Existing Electricity Line
 - Proposed Electricity Line

Figure 7.9: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

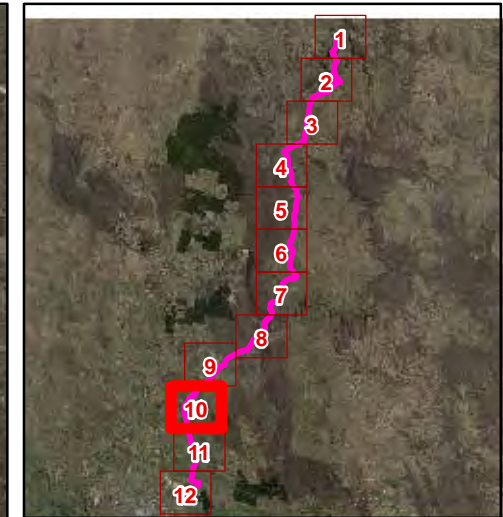
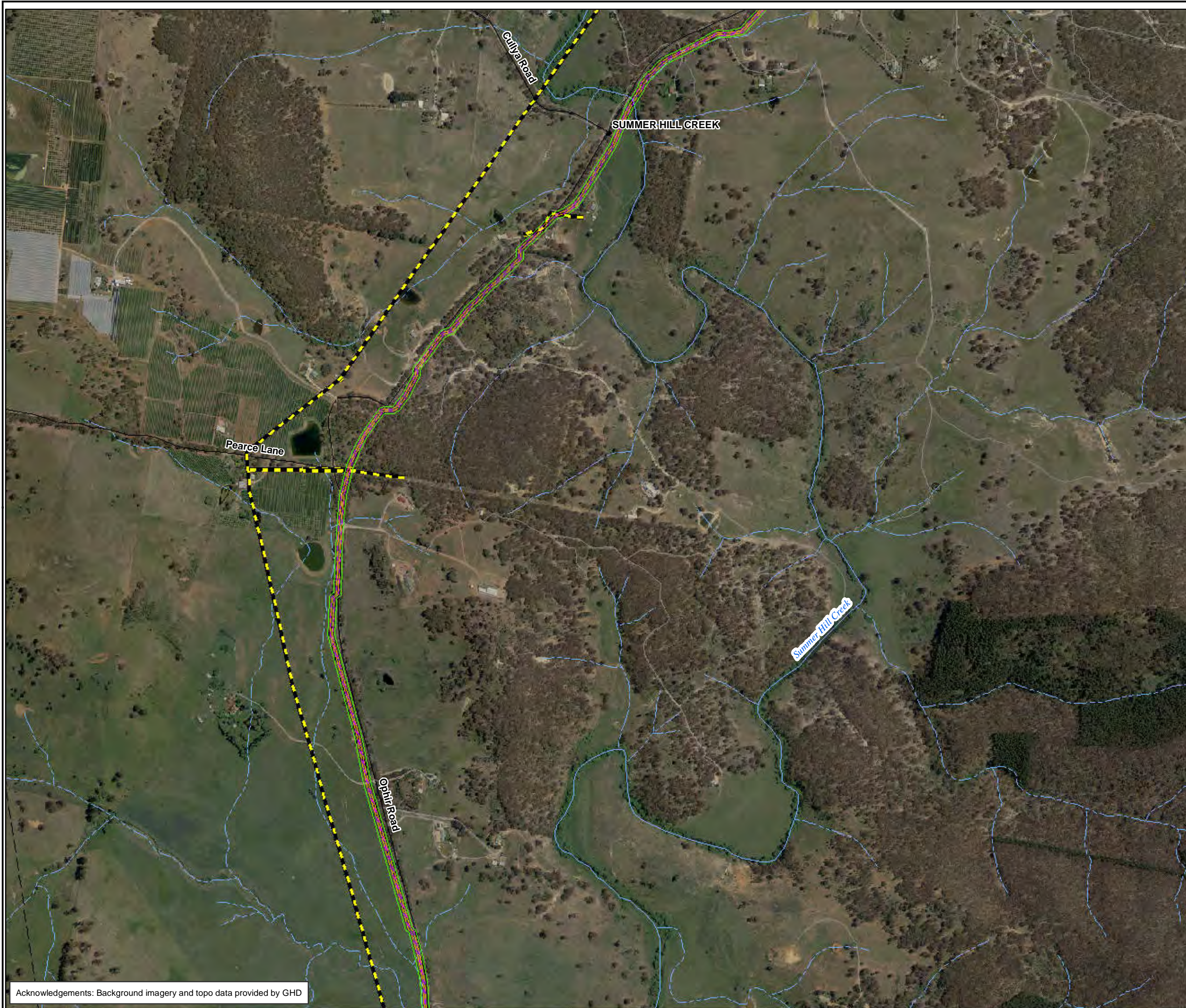
0 100 200 300 400 500
 Metres
 Scale: 1:10,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55


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Acknowledgements: Background imagery and topo data provided by GHD



- Legend**
- Vegetation Covered by the EPBC Act
- White Box Yellow Box Blakely's Red Gum Grassy Woodland and derived native grasslands
- Proposed Impact Areas
- Pipeline Easement
 - Proposed Construction Access Zone
 - Proposed Construction Clearing Zone
 - Construction Compound Location
 - Proposed Pump Station
 - Existing Electricity Line
 - Proposed Electricity Line

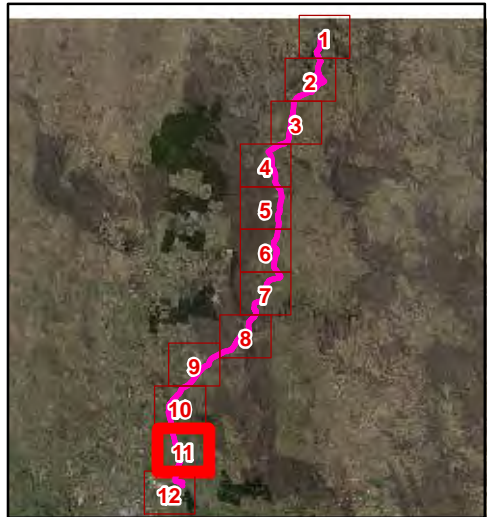
Figure 7.10: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

0 100 200 300 400 500
 Metres
 Scale: 1:10,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

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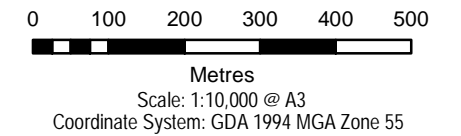
Vegetation Covered by the EPBC Act

- White Box Yellow Box Blakely's Red Gum Grassy Woodland and derived native grasslands

Proposed Impact Areas

- Pipeline Easement
- Proposed Construction Access Zone
- Proposed Construction Clearing Zone
- Construction Compound Location
- Proposed Pump Station
- Existing Electricity Line
- Proposed Electricity Line

Figure 7.11: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

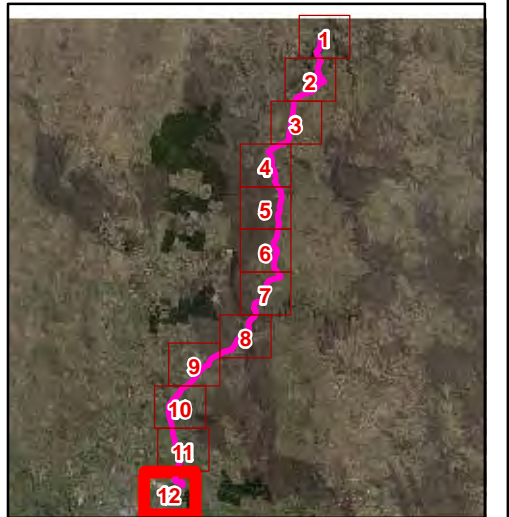


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Acknowledgements: Background imagery and topo data provided by GHD



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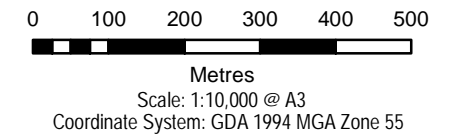
Vegetation Covered by the EPBC Act

- White Box Yellow Box Blakely's Red Gum Grassy Woodland and derived native grasslands

Proposed Impact Areas

- Pipeline Easement
- Proposed Construction Access Zone
- Proposed Construction Clearing Zone
- Construction Compound Location
- Proposed Pump Station
- Existing Electricity Line
- Proposed Electricity Line

Figure 7.12: EPBC Act Box Gum Woodland EEC Vegetation Mapping (Biosis Research 2012)

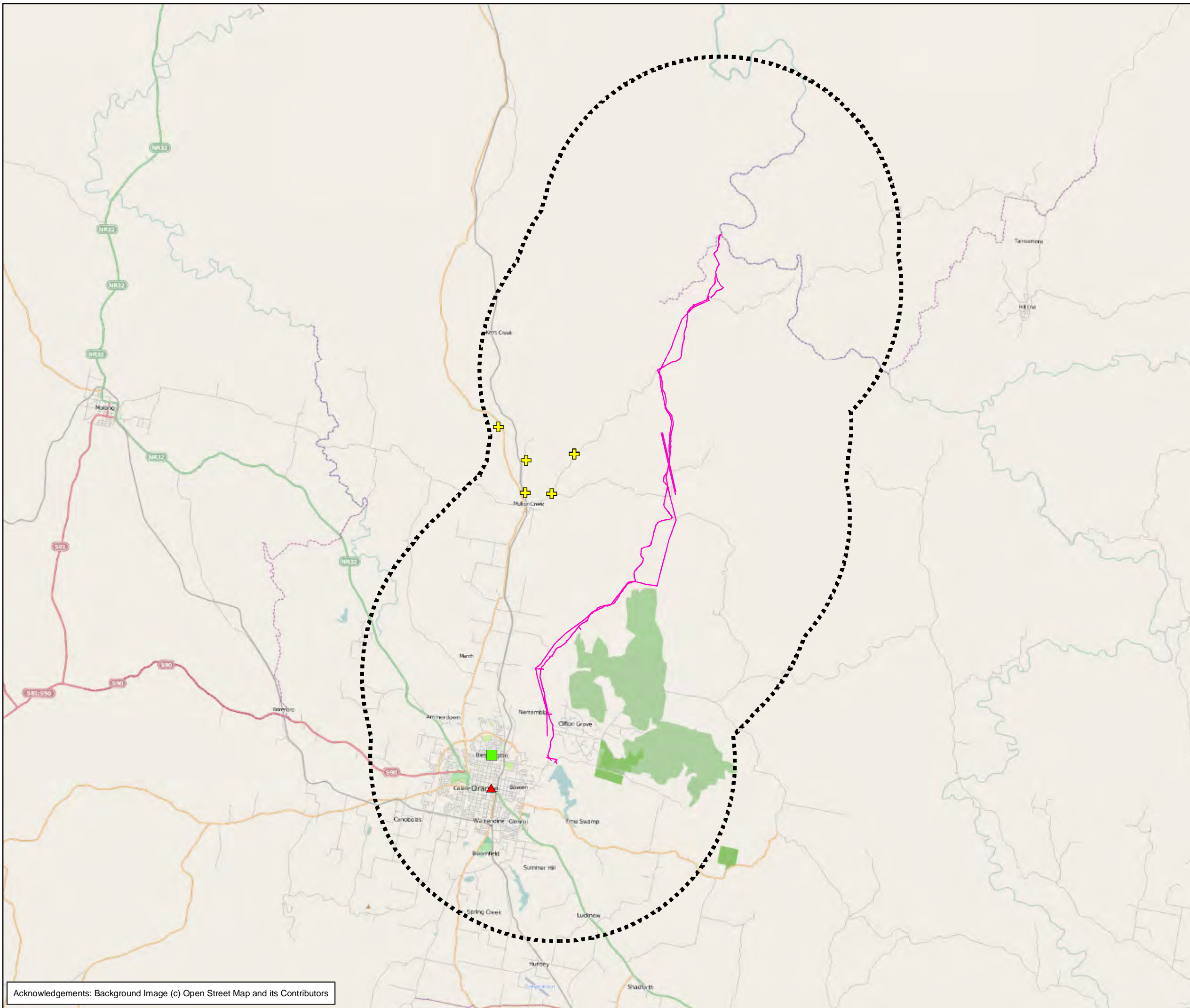


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Acknowledgements: Background imagery and topo data provided by GHD



- Legend**
- Threatened Flora
- ▲ *Eucalyptus canobolensis*
 - ✚ *Eucalyptus robertsonii* subsp. *hemisphaerica*
 - *Swainsona sericea*
- Study Area
- 10 km Search Buffer

Figure 8: Threatened Flora within 10km of the Study Area

0 2,000 4,000 6,000 8,000 10,000
 Metres
 Scale: 1:200,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



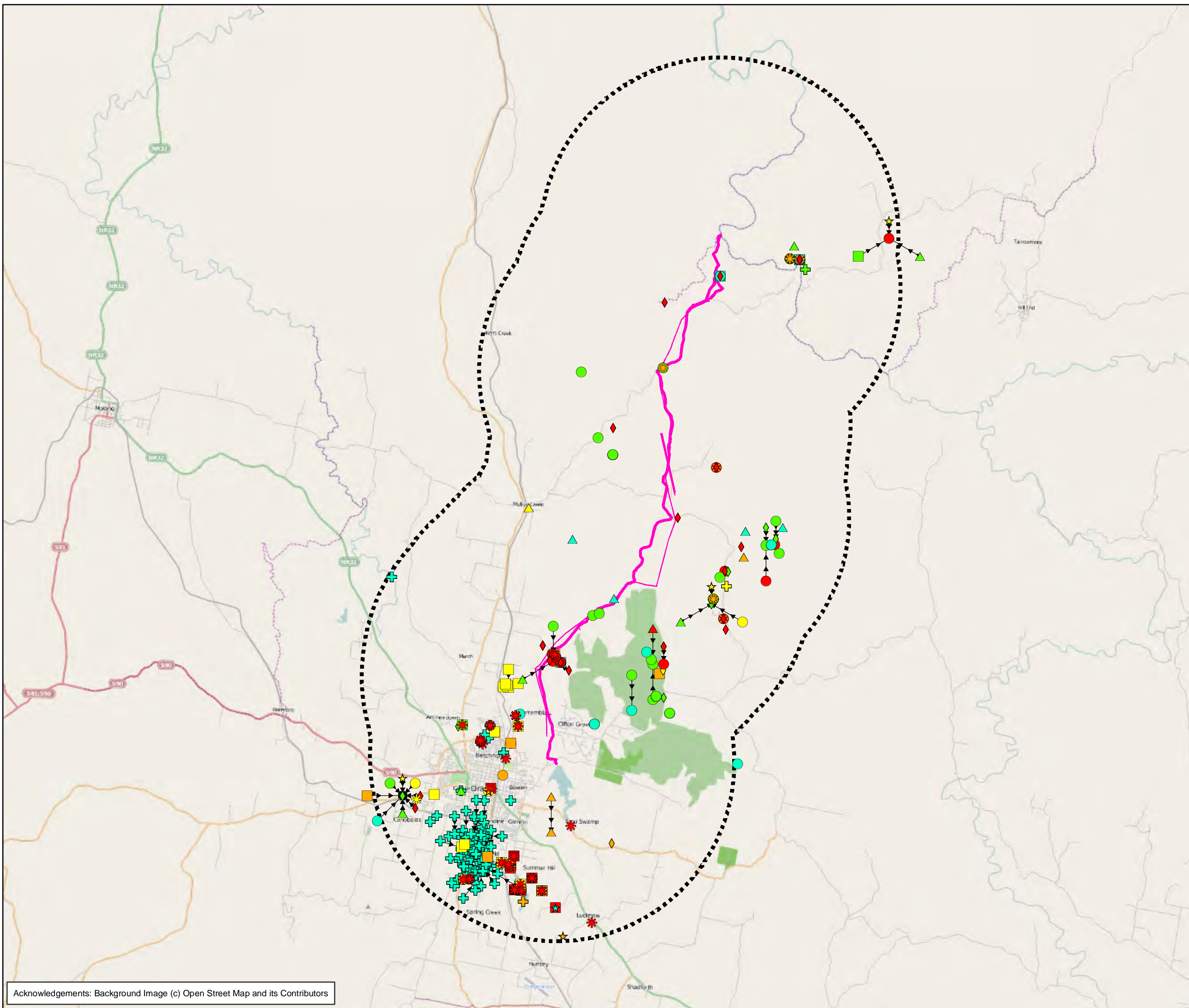
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Date: 05 April 2012, File number: #####
 Checked by: ###, Drawn by: ###
 Location: P:\13600s\13629\Mapping\Report Figures\13629_F8_Thr_Flora.mxd

Acknowledgements: Background Image (c) Open Street Map and its Contributors



- Legend**
- Threatened and Migratory Fauna
- ✱ Australian Reed-Warbler
 - ▲ Barking Owl
 - + Black Bittern
 - Blue-billed Duck
 - Brown Treecreeper
 - ★ Cattle Egret
 - ◆ Diamond Firetail
 - ▲ Eastern Bentwing-bat
 - Flame Robin
 - Fork-tailed Swift
 - ★ Freckled Duck
 - ◆ Glossy Ibis
 - + Great Egret
 - ✱ Hooded Robin
 - ▲ Koala
 - + Large-eared Pied Bat
 - Latham's Snipe
 - Little Eagle
 - ★ Little Lorikeet
 - ✱ Pied Honeyeater
 - ◆ Powerful Owl
 - ▲ Rainbow Bee-eater
 - + Regent Honeyeater
 - Satin Flycatcher
 - Scarlet Robin
 - ★ Sharp-tailed Sandpiper
 - ◆ Speckled Warbler
 - ▲ Spotted-tailed Quoll
 - + Superb Parrot
 - Turquoise Parrot
 - Varied Sittella
 - ★ White-bellied Sea-Eagle
 - ◆ White-throated Needletail
 - Study Area
 - 10 km Search Buffer

Figure 9: Threatened and Migratory Fauna within 10km of the Study Area

0 2,000 4,000 6,000 8,000 10,000
 Metres
 Scale: 1:200,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55



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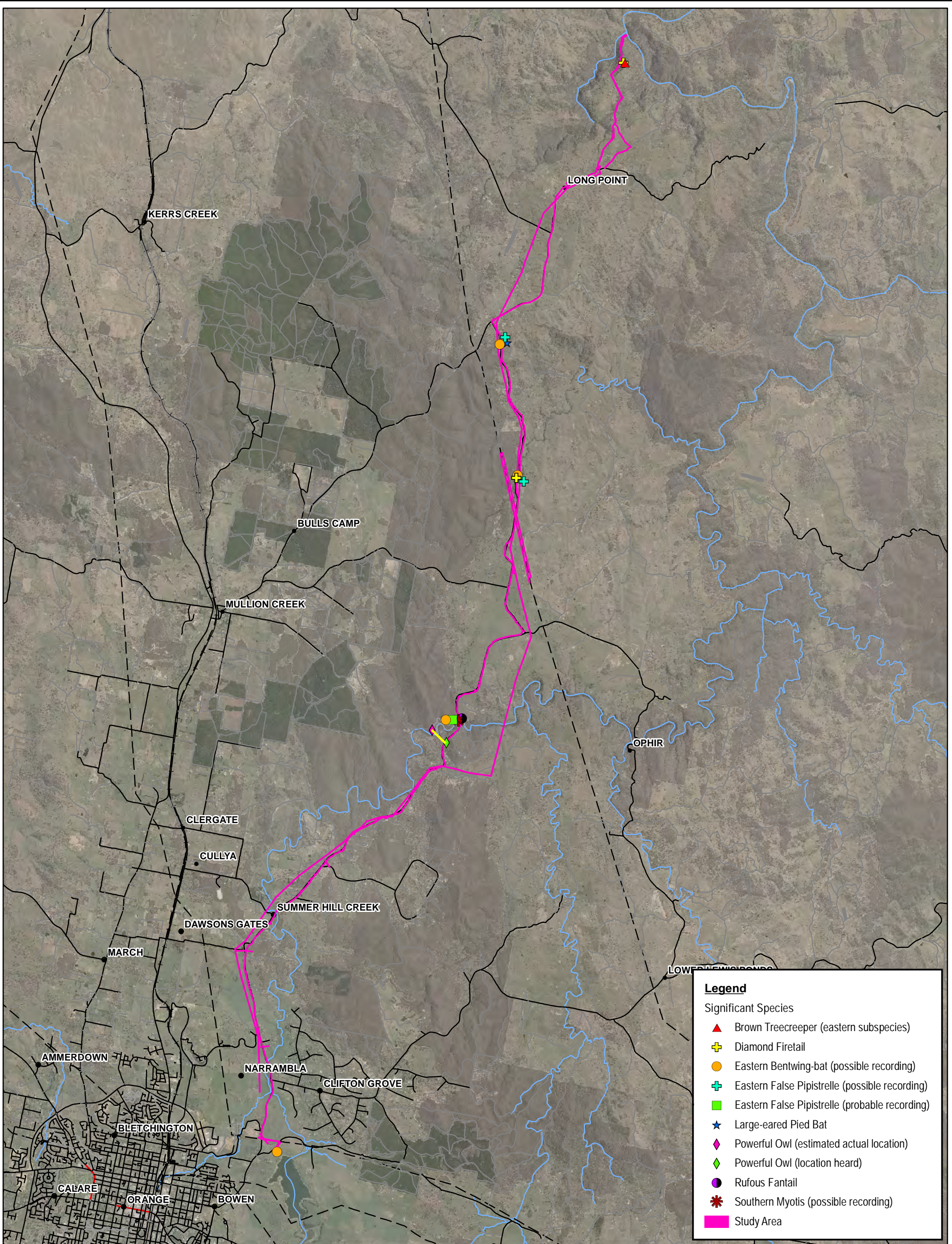
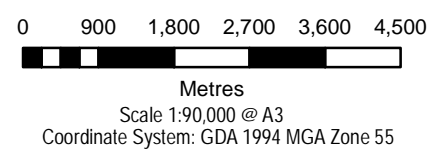
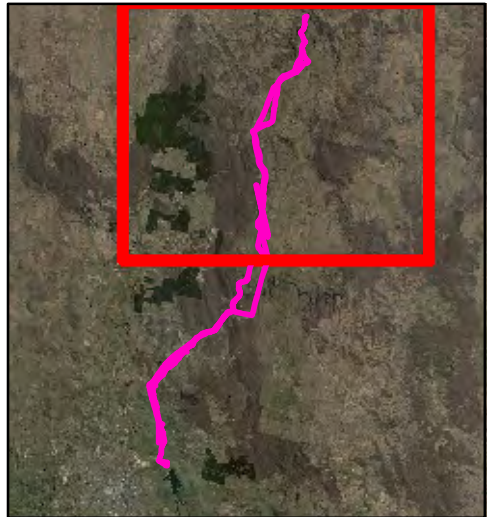
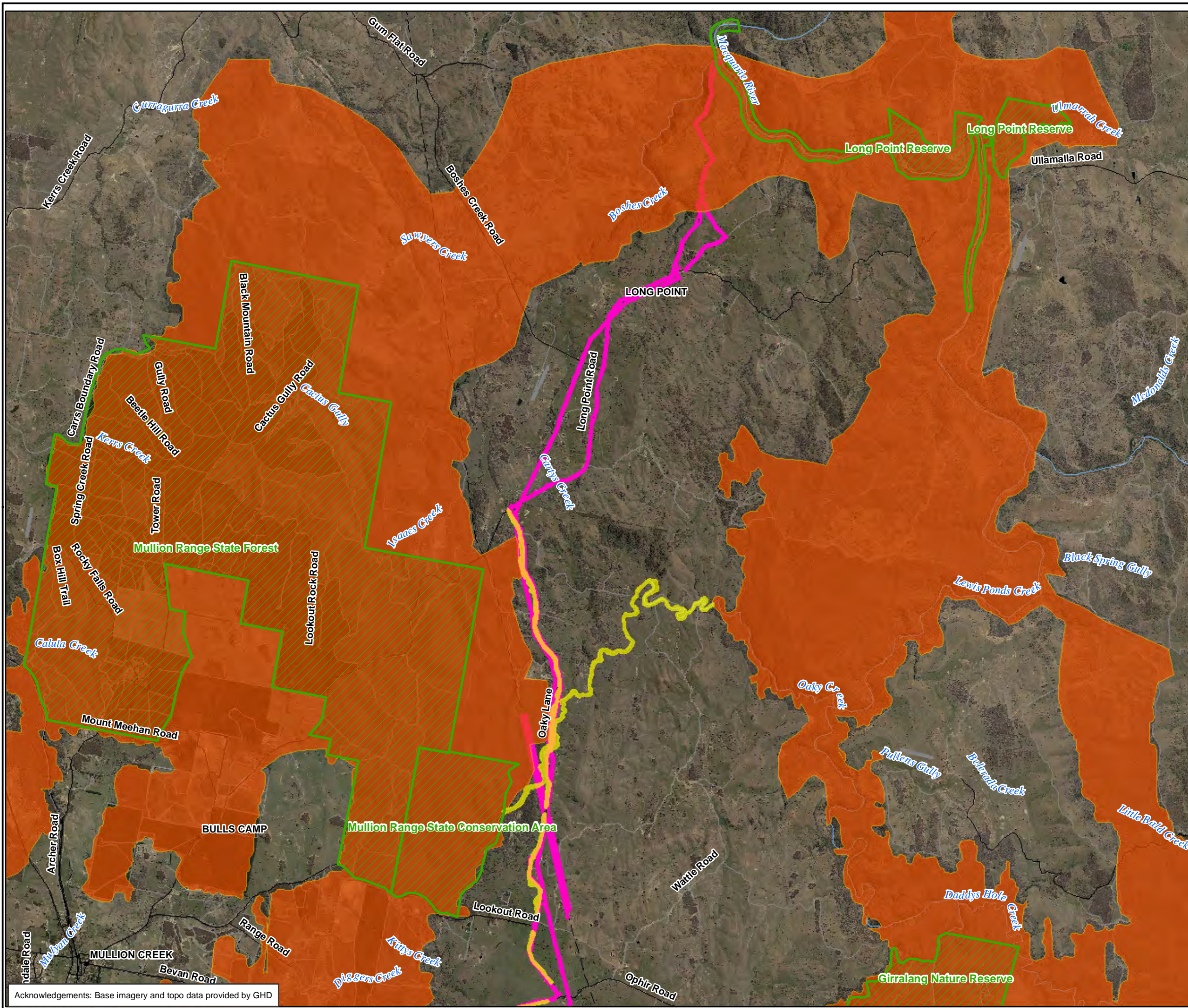


Figure 10: Significant Species Recorded during Field Surveys

Acknowledgements: Background imagery and topo data provided by GHD

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 File number: 13629
 Path: P:\13600s\13629\Mapping\Report Figures\13629_F10_Sig_Species.mxd

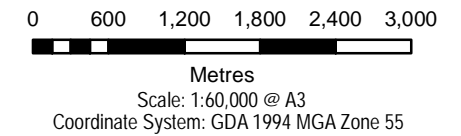




Legend

- Reserves
- Biodiversity Corridors**
- Regional (unofficial)
- Local (unofficial)
- Study Area

Figure 11.1: Biodiversity Corridors, North

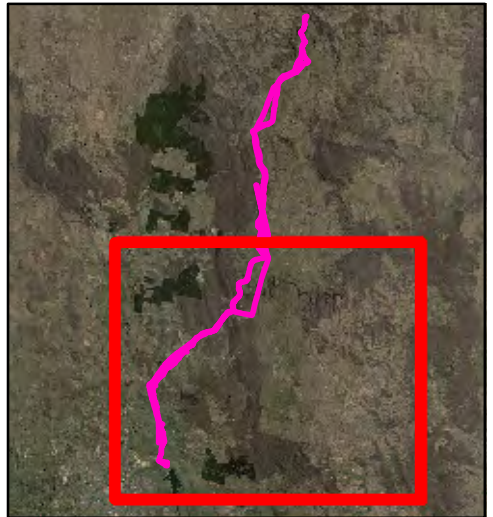
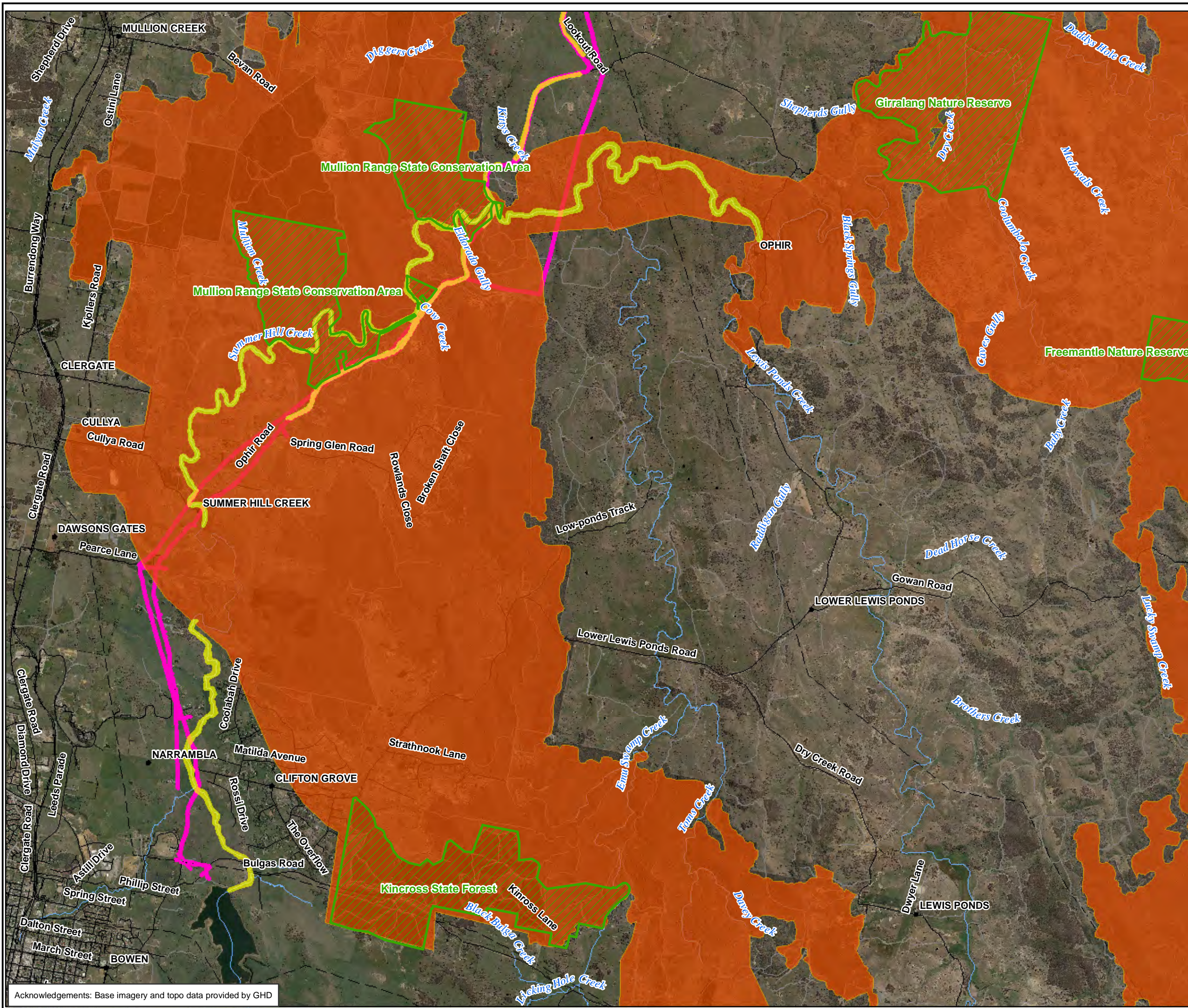


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Date: 17 April 2012, File number: 13629
Checked by: JC, Drawn by: JMS
Location: P:\13600s\13629\Mapping\Report Figures\13629_F11-
1_FaunaCorridors_North.mxd

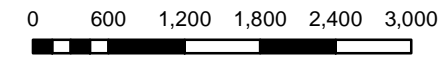
Acknowledgements: Base imagery and topo data provided by GHD



Legend

- Reserves
- Biodiversity Corridors**
 - Regional (unofficial)
 - Local (unofficial)
 - Study Area

Figure 11.2: Biodiversity Corridors, South



Metres
 Scale: 1:60,000 @ A3
 Coordinate System: GDA 1994 MGA Zone 55

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 Location: P:\13600s\13629\Mapping\Report Figures\13629_F11-2_FaunaCorridors_South.mxd

Acknowledgements: Base imagery and topo data provided by GHD

APPENDIX 1

Flora and fauna survey results

Flora survey results

Table 16: Flora species recorded during Biosis Research field surveys.

General Status	
*	Exotic (not native to Australia)
N()	Noxious weeds and 'Control Class' as listed on the NSW Noxious Weeds Act 1993 for the Orange LGA
nl	Non - locally occurring native species (does not naturally occur at this locality)
Conservation Status	
CE	Critically Endangered species - listed under Schedule 1A of the TSC Act
E	Endangered species - listed under Schedule 1 of the TSC Act
E2	Endangered population for the LGA - listed under Schedule 1 of the TSC Act
V	Vulnerable species - listed under Schedule 2 of the TSC Act
CE +	Critically Endangered species - listed under the EPBC Act
E +	Endangered species - listed under the EBPC Act
V +	Vulnerable species - listed under the EPBC Act
ROTAP	Rare or Threatened Australian Plant
Vegetation Types	
WLD 1	Box Gum Woodland (TSC & EPBC Act)
WLD 2	Shrubby White Box Woodland (TSC & EPBC Act)
WLD 3	Red Stringybark Blakely's Red Gum Yellow Box Woodland
WLD 4	Stringybark Box Gum Woodland
WLD 5	Tumbledown Red Gum Black Cypress Pine Red Box Woodland
RIP FOR/WLD	Riparian Forest/Woodland
NGL	Native Grassland
EXGL	Exotic Grassland
S TREES	Scattered Trees

Modified Braun Blanquet Cover Abundance (BB)	
1	<5% - 3 or less individuals
2	<5% - more than 3 sparsely scattered
3	<5% - common throughout plot
4	5% - 25%
5	25% - 50%
6	50% - 75%
7	75% - 100%
#	Presence only

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
	Fabaceae (Mimosoideae)	<i>Acacia buxifolia ssp. buxifolia</i>	Box-leaved Wattle								
	Fabaceae (Mimosoideae)	<i>Acacia dealbata ssp. dealbata</i>	Silver Wattle	3		3	1		3		
	Fabaceae (Mimosoideae)	<i>Acacia implexa</i>	Hickory Wattle	2							
	Rosaceae	<i>Acaena echinata</i>	Sheep's Burr	2		2			2		
	Rosaceae	<i>Acaena novae-zelandiae</i>	Bidgee-widgee	2		2					
	Rosaceae	<i>Acaena ovina</i>	Acaena			2					
*	Polygonaceae	<i>Acetosella vulgaris</i>	Sheep Sorrel	2					3		
*	Myrsinaceae	<i>Anagallis arvensis</i>	Scarlet Pimpernel	2					3		
	Apiaceae	<i>Apium sp</i>		2		1					
	Poaceae	<i>Aristida ramosa</i>	Purple Wiregrass		3				1		
	Poaceae	<i>Aristida vagans</i>	Threeawn Speargrass								*
	Rubiaceae	<i>Asperula conferta</i>	Common Woodruff								*
*	Asteraceae	<i>Aster subulatus</i>	Wild Aster								*
	Poaceae	<i>Austrodanthonia caespitosa</i>	Ringed Wallaby Grass						3		
	Poaceae	<i>Austrodanthonia carphoides</i>	Short Wallaby Grass	2							
	Poaceae	<i>Austrodanthonia sp</i>	A Wallaby Grass	2		4	3	3	3	3	3

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
	Poaceae	<i>Austrostipa bigeniculata</i>	Yanganbil	3		2	4		3		
	Poaceae	<i>Austrostipa ramosissima</i>	Stout Bamboo Grass						3		
	Poaceae	<i>Austrostipa scabra</i>	Speargrass		1			2			
	Poaceae	<i>Austrostipa scabra ssp. scabra</i>	Rough Speargrass		2						
*	Poaceae	<i>Avena fatua</i>	Wild Oats	2					2		3
*	Poaceae	<i>Avena sp</i>	Oats						2		
	Poaceae	<i>Bothriochloa macra</i>	Red Grass	2	2			2	1		
	Ericaceae	<i>Brachyloma daphnoides</i>	Daphne Heath				1				
*	Brassicaceae	<i>Brassica sp</i>	Brassica								*
*	Poaceae	<i>Briza maxima</i>	Quaking Grass	3		3	3		2		
*	Poaceae	<i>Briza minor</i>	Shivery Grass						2		
*	Poaceae	<i>Bromus catharticus</i>	Praire Grass	1					3		3
*	Poaceae	<i>Bromus hordeaceus</i>	Soft Brome							3	2
	Cupressaceae	<i>Callitris endlicheri</i>	Black Cypress Pine		3						
	Asteraceae	<i>Calotis lappulacea</i>	Yellow Burr-daisy		3					1	
*	Asteraceae	<i>Carduus tenuiflorus</i>	Winged Slender Thistle						2		
	Cyperaceae	<i>Carex appressa</i>	Tall Sedge	2		2		1	3	2	*
	Asteraceae	<i>Cassinia arcuata</i>	Sifton Bush	3			1				
	Casuarinaceae	<i>Casuarina cunninghamiana ssp. cunninghamiana</i>	River Oak						6		
*	Gentianaceae	<i>Centaurium erythraea</i>	Common Centaury	2			3			3	
	Adiantaceae	<i>Cheilanthes austrotenuifolia</i>	Rock Fern				3				
	Adiantaceae	<i>Cheilanthes sieberi ssp. sieberi</i>	Rock Fern	2	2			3	1	2	
	Asteraceae	<i>Chrysocephalum apiculatum</i>	Common Everlasting	2			3				
*	Asteraceae	<i>Cirsium vulgare</i>	Spear Thistle	2			1		3		*
*	Apiaceae	<i>Conium maculatum</i>	Hemlock						2		*
	Convolvulaceae	<i>Convolvulus erubescens</i>	Blushing Bindweed								*
*	Asteraceae	<i>Conyza bonariensis</i>	Flaxleaf Fleabane						2		
*	Asteraceae	<i>Conyza sp</i>	A Fleabane	2		3	2	2	3	2	3

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
*	Malaceae	<i>Crataegus monogyna</i>	Hawthorn								
*	Cupressaceae	<i>Cupressus sp</i>									
	Asteraceae	<i>Cymbonotus lawsonianus</i>					1				
	Poaceae	<i>Cynodon dactylon</i>	Common Couch						4		
*	Cyperaceae	<i>Cyperus eragrostis</i>	Umbrella Sedge								
	Cyperaceae	<i>Cyperus sp</i>							2		
*	Poaceae	<i>Dactylis glomerata</i>	Cocksfoot						2		
	Fabaceae (Faboideae)	<i>Daviesia leptophylla</i>		1							
	Fabaceae (Faboideae)	<i>Daviesia sp.</i>		1							
	Fabaceae (Faboideae)	<i>Desmodium varians</i>	Slender Tick-trefoil		1		2				
	Phormiaceae	<i>Dianella longifolia var. longifolia</i>	A Blue Flax Lily								
	Phormiaceae	<i>Dianella revoluta var. revoluta</i>	A Blue Flax Lily	2		3	3				1
	Poaceae	<i>Dichelachne sp</i>	A Plumegrass			2		3		4	
	Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed	3	3	3		3	2	3	
	Anthericaceae	<i>Dichopogon fimbriatus</i>	Nodding Chocolate Lily	1						2	
	Orchidaceae	<i>Dipodium variegatum</i>					1				
	Droseraceae	<i>Drosera spatulata</i>		1							
	Poaceae	<i>Echinopogon ovatus</i>	Forest Hedgehog Grass	2			2		2		
	Poaceae	<i>Echinopogon sp</i>	A Hedgehog Grass					2			
*	Boraginaceae	<i>Echium plantagineum</i>	Patterson's Curse						1		2
	Chenopodiaceae	<i>Einadia nutans</i>	Climbing Saltbush		2			2			
	Poaceae	<i>Elymus scaber var. scaber</i>	Common Wheatgrass				2	2		4	*
	Myrtaceae	<i>Eucalyptus albens</i>	White Box	3	6			4			
	Myrtaceae	<i>Eucalyptus blakelyi</i>	Blakely's Red Gum	3			3	5	1		
	Myrtaceae	<i>Eucalyptus bridgesiana</i>	Apple Box			5	2				
	Myrtaceae	<i>Eucalyptus goniocalyx</i>	Bundy	1							
	Myrtaceae	<i>Eucalyptus macrorhyncha</i>	Red Stringybark			3	2	4			
	Myrtaceae	<i>Eucalyptus melliodora</i>	Yellow Box	3							

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
nl V V+	Myrtaceae	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint								
	Myrtaceae	<i>Eucalyptus polyanthemos ssp. polyanthemos</i>	Red Box				1				
	Myrtaceae	<i>Eucalyptus rubida</i>	Candlebark			5					
	Myrtaceae	<i>Eucalyptus rubida ssp. rubida</i>				4	2				
	Myrtaceae	<i>Eucalyptus viminalis</i>	Ribbon Gum						5		
	Asteraceae	<i>Euchiton gymnocephalus</i>	Creeping Cudweed				1				
	Asteraceae	<i>Euchiton involucratus</i>	Star Cudweed				2				
	Asteraceae	<i>Euchiton sp</i>	A Cudweed	2		2					
*	Euphorbiaceae	<i>Euphorbia peplus</i>	Petty Spurge						2		
*	Fumariaceae	<i>Fumaria sp</i>	Fumitory						2		
	Rubiaceae	<i>Galium gaudichaudii ssp. gaudichaudii</i>					2				
*	Rubiaceae	<i>Galium sp</i>									*
	Geraniaceae	<i>Geranium retrorsum</i>	Cranesbill Geranium						3		
	Geraniaceae	<i>Geranium solanderi var. solanderi</i>		2		3	3	2	3	3	3
	Fabaceae (Faboideae)	<i>Glycine clandestina</i>	Twining glycine		2	2	2			2	
	Fabaceae (Faboideae)	<i>Glycine tabacina</i>	Variable Glycine				2		2		
	Haloragaceae	<i>Gonocarpus tetragynus</i>	Poverty Raspwort				2				
	Goodeniaceae	<i>Goodenia bellidifolia</i>		2							
	Goodeniaceae	<i>Goodenia hederacea ssp. hederacea</i>					3				
	Goodeniaceae	<i>Goodenia sp</i>					3				
	Proteaceae	<i>Grevillea ramosissima ssp. ramosissima</i>	Fan Grevillea				2				
	Fabaceae (Faboideae)	<i>Hardenbergia violacea</i>	False Sarsaparilla								
*	Araliaceae	<i>Hedera helix</i>	English Ivy								
	Dilleniaceae	<i>Hibbertia sp</i>		1							
*	Poaceae	<i>Holcus lanatus</i>	Yorkshire Fog	2					3		*
	Apiaceae	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort	3		3	3	3		2	
N4	Clusiaceae	<i>Hypericum perforatum</i>	St. Johns Wort			3			3	3	

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
*	Asteraceae	<i>Hypochaeris radicata</i>	Catsear	3		3	2	1	3		3
	Juncaceae	<i>Juncus sp</i>	A Rush								
	Juncaceae	<i>Juncus usitatus</i>		2							
*	Asteraceae	<i>Lactuca serriola</i>	Prickly Lettuce								*
	Cyperaceae	<i>Lepidosperma laterale</i>	Variable Sword-sedge				2				
	Ericaceae	<i>Leucopogon sp</i>	A Beard-heath	2				1			
*	Poaceae	<i>Lolium perenne</i>	Perennial Ryegrass	2				1	3		*
*	Poaceae	<i>Lolium rigidum</i>	Wimmera Ryegrass	2							
	Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush				2		1		
	Lomandraceae	<i>Lomandra multiflora ssp. multiflora</i>	Many-flowered Mat-rush	3	1	2	2				
*	Fabaceae (Faboideae)	<i>Medicago lupulina</i>	Black Medic								*
	Ericaceae	<i>Melichrus urceolatus</i>	Urn Heath	2							
	Poaceae	<i>Microlaena stipoides var. stipoides</i>	Weeping Grass		3				4	3	
*	Malvaceae	<i>Modiola caroliniana</i>	Red-flowered Mallow						2		2
N4	Poaceae	<i>Nassella trichotoma</i>	Serrated Tussock						2		
	Asteraceae	<i>Olearia elliptica ssp. elliptica</i>			5			1		3	
N4	Asteraceae	<i>Onopordum acanthium</i>				2		2			
	Rubiaceae	<i>Opercularia aspera</i>	Coarse Stinkweed	1							
N4	Cactaceae	<i>Opuntia aurantiaca</i>	Tiger Pear		2			2	1		
	Oxalidaceae	<i>Oxalis perennans</i>			1			1			
	Oxalidaceae	<i>Oxalis sp</i>							2		*
	Poaceae	<i>Panicum sp</i>	Panicum								
*	Poaceae	<i>Paspalum dilatatum</i>	Paspalum	2							*
	Poaceae	<i>Paspalum distichum</i>	Water Couch						3		3
*	Polygonaceae	<i>Persicaria sp</i>	Knotweed								
*	Caryophyllaceae	<i>Petrorhagia nanteuillii</i>	Proliferous Pink				2		1		
*	Poaceae	<i>Phalaris aquatica</i>	Phalaris	4		4					6
*	Phytolaccaceae	<i>Phytolacca octandra</i>	Inkweed								
*	Pinaceae	<i>Pinus radiata</i>	Radiata Pine								

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
	Plantaginaceae	<i>Plantago gaudichaudii</i>	Narrow Plantain								
*	Plantaginaceae	<i>Plantago lanceolata</i>	Lamb's Tongues	3		3			3		3
	Poaceae	<i>Poa labillardierei</i> var. <i>labillardierei</i>	Tussock	3		4			3	4	3
	Poaceae	<i>Poa sieberiana</i>	Snowgrass	2	3						
	Poaceae	<i>Poa sieberiana</i> var. <i>hirtella</i>					3				
	Poaceae	<i>Poa sieberiana</i> var. <i>sieberiana</i>	Snowgrass	2		3				3	
*	Salicaceae	<i>Populus nigra</i>	Lombardy Poplar								
	Phyllanthaceae	<i>Poranthera microphylla</i>	Small Poranthera				2				
	Dennstaedtiaceae	<i>Pteridium esculentum</i>	Bracken			2					
	Fabaceae (Faboideae)	<i>Pultenaea procumbens</i>		2		2	3				
	Fabaceae (Faboideae)	<i>Pultenaea setulosa</i>	A Bush Pea				3				
*	Fagaceae	<i>Quercus robur</i>	English Oak								
	Ranunculaceae	<i>Ranunculus lappaceus</i>	Common Buttercup	2							
*	Ranunculaceae	<i>Ranunculus</i> sp									*
*	Brassicaceae	<i>Raphanus raphanistrum</i>	Wild Radish						3		
*	Brassicaceae	<i>Rapistrum rugosum</i>	Turnip Weed						3		
*	Fabaceae (Faboideae)	<i>Robinia pseudoacacia</i>	Black Locust								
*	Rosaceae	<i>Rosa</i> sp				2				1	
N4	Rosaceae	<i>Rubus fruticosus</i> sp. <i>agg.</i>	Blackberry complex	2		2				1	*
*	Polygonaceae	<i>Rumex crispus</i>	Curled Dock								*
*	Polygonaceae	<i>Rumex</i> sp	Dock		2						
N5	Salicaceae	<i>Salix fragilis</i> var. <i>fragilis</i>	Crack Willow								*
	Cyperaceae	<i>Schoenus apogon</i>	Fluke Bogrush	1			4				
*	Asteraceae	<i>Senecio madagascariensis</i>	Fireweed	3							
	Asteraceae	<i>Senecio quadridentatus</i>	Cotton Fireweed				2				
	Asteraceae	<i>Sigesbeckia orientalis</i>			2						
	Solanaceae	<i>Solanum cinereum</i>	Narrawa Burr					1			
*	Asteraceae	<i>Sonchus oleraceus</i>	Common Sowthistle						2		*
	Poaceae	<i>Sorghum leiocladum</i>	Wild Sorghum				5				

Status	Family	Scientific Name	Common Name	WLD1	WLD2	WLD3	WLD4	WLD5	RIP FOR/WLD	NGL	EXGL
	Stackhousiaceae	<i>Stackhousia sp</i>		1							
	Poaceae	<i>Themeda australis</i>	Kangaroo Grass	4		4	4				3
	Anthericaceae	<i>Tricoryne elatior</i>	Yellow Autumn-lily	2			2				
	Anthericaceae	<i>Tricoryne sp</i>					1				
*	Fabaceae (Faboideae)	<i>Trifolium angustifolium</i>	Narrow-leaved Clover	1							
*	Fabaceae (Faboideae)	<i>Trifolium arvense</i>	Haresfoot Clover	2		2	2			2	3
*	Fabaceae (Faboideae)	<i>Trifolium sp</i>	A Clover			2				2	
	Urticaceae	<i>Urtica incisa</i>	Stinging Nettle						2		
*	Scrophulariaceae	<i>Verbascum thapsus ssp. thapsus</i>	Great Mullein							2	
*	Verbenaceae	<i>Verbena rigida</i>	Veined Verbena						4		
*	Verbenaceae	<i>Verbena sp</i>			3	2				3	
	Plantaginaceae	<i>Veronica calycina</i>	Hairy Speedwell	1			2				
*	Plantaginaceae	<i>Veronica persica</i>	Creeping Speedwell						2		
	Plantaginaceae	<i>Veronica plebeia</i>	Trailing Speedwell								
*	Fabaceae (Faboideae)	<i>Vicia sp</i>	Vetch						2		
*	Fabaceae (Faboideae)	<i>Vicia tetrasperma</i>	Slender Vetch			2					2
	Violaceae	<i>Viola betonicifolia ssp. betonicifolia</i>		1							
	Asteraceae	<i>Vittadinia cuneata</i>	A Fuzzweed	2			3				2
	Asteraceae	<i>Vittadinia gracilis</i>	Woolly New Holland Daisy				2				
*	Poaceae	<i>Vulpia bromoides</i>	Squirrel Tail Fesque						2		
*	Poaceae	<i>Vulpia sp</i>	Rat's-tail Fescue					2		3	3
	Campanulaceae	<i>Wahlenbergia communis</i>	Tufted Bluebell	2	2	2	3		2		

Fauna survey results

Table 17: Fauna species recorded during Biosis Research field surveys.

Family Name	Scientific Name	Common Name	EPBC Act ¹	TSC Act ²	Observation type
Amphibians					
Hylidae	<i>Litoria wilcoxii</i>	Stoney Creek Frog	-	-	O
	<i>Litoria peronii</i>	Peron's Tree Frog	-	-	H
	<i>Litoria verreauxii</i>	Verreaux's Frog	-	-	H
Myobatrachidae	<i>Crinia signifera</i>	Common Eastern Froglet	-	-	H
	<i>Limnodynastes dumerilii</i>	Eastern Banjo Frog	-	-	O
	<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog	-	-	H
	<i>Uperoleia laevigata</i>	Smooth Toadlet	-	-	H
Birds					
Columbidae	<i>Columba livia</i>	Rock Dove	-	U	O
Muscicapidae	<i>Turdus merula</i>	Common Blackbird	-	U	OH
Passeridae	<i>Passer domesticus</i>	House Sparrow	-	U	O
Phasianidae	<i>Gallus domesticus</i>	Rooster (domestic fowl)	-	U	H
Sturnidae	<i>Acridotheres tristis</i>	Common Myna	-	U	O
	<i>Sturnus vulgaris</i>	Common Starling	-	U	O
Accipitridae	<i>Aquila audax</i>	Wedge-tailed Eagle	-	-	O
Alcedinidae	<i>Alcedo azurea</i>	Azure Kingfisher	-	-	OH
Anatidae	<i>Anas superciliosa</i>	Pacific Black Duck	-	-	O
	<i>Chenonetta jubata</i>	Australian Wood Duck	-	-	O
Ardeidae	<i>Egretta novaehollandiae</i>	White-faced Heron	-	-	O
Artamidae	<i>Artamus cyanopterus</i>	Dusky Woodswallow	-	-	OH
	<i>Cracticus nigrogularis</i>	Pied Butcherbird	-	-	O
	<i>Cracticus torquatus</i>	Grey Butcherbird	-	-	H
	<i>Grallina cyanoleuca</i>	Magpie-lark	-	-	H
	<i>Gymnorhina tibicen</i>	Australian Magpie	-	-	OH
	<i>Strepera graculina</i>	Pied Currawong	-	-	OH
Cacatuidae	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	-	-	OH
	<i>Cacatua roseicapilla</i>	Galah	-	-	OH
Campephagidae	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	-	-	H
Climacteridae	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subsp)	-	V	OH
	<i>Cormobates leucophaeus</i>	White-throated Treecreeper	-	-	H
Columbidae	<i>Geopelia striata</i>	Peaceful Dove	-	-	O
	<i>Ocyphaps lophotes</i>	Crested Pigeon	-	-	O

Family Name	Scientific Name	Common Name	EPBC Act ¹	TSC Act ²	Observation type
	<i>Phaps chalcoptera</i>	Common Bronzewing	-	-	O
Coraciidae	<i>Eurystomus orientalis</i>	Dollarbird	-	-	O
Corcoracidae	<i>Corcorax melanorhamphos</i>	White-winged Cough	-	-	OH
Corvidae	<i>Corvus coronoides</i>	Australian Raven	-	-	OH
Cuculidae	<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	-	-	H
	<i>Cacomantis variolosus</i>	Brush Cuckoo	-	-	H
	<i>Chrysococcyx lucidus</i>	Shining Bronze-Cuckoo	-	-	H
	<i>Cuculus pallidus</i>	Pallid Cuckoo	-	-	H
	<i>Eudynamys scolopacea</i>	Common Koel	-	-	H
Dicaeidae	<i>Dicaeum hirundinaceum</i>	Mistletoebird	-	-	OH
Dicuridae	<i>Myiagra rubecula</i>	Leaden Flycatcher	-	-	H
	<i>Rhipidura albiscapa</i>	Grey Fantail	-	-	O
	<i>Rhipidura leucophrys</i>	Willie Wagtail	-	-	OH
	<i>Rhipidura rufifrons</i>	Rufous Fantail	M	-	H
Falconidae	<i>Falco cenchroides</i>	Nankeen Kestrel	-	-	O
Halcyonidae	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	-	-	OHIC
	<i>Todiramphus sanctus</i>	Sacred Kingfisher	-	-	H
Hirundinidae	<i>Hirundo ariel</i>	Fairy Martin	-	-	O
	<i>Hirundo neoxena</i>	Welcome Swallow	-	-	OH
Laridae	<i>Larus novaehollandiae</i>	Silver Gull	-	-	OH
Maluridae	<i>Malurus cyaneus</i>	Superb Fairy-wren	-	-	OH
Meliphagidae	<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill	-	-	H
	<i>Anthochaera carunculata</i>	Red Wattlebird	-	-	OH
	<i>Anthochaera chrysoptera</i>	Little Wattlebird	-	-	H
	<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater	-	-	OH
	<i>Lichenostomus leucotis</i>	White-eared Honeyeater	-	-	H
	<i>Manorina melanocephala</i>	Noisy Miner	-	-	OH
	<i>Meliphaga lewinii</i>	Lewin's Honeyeater	-	-	H
	<i>Melithreptus lunatus</i>	White-naped Honeyeater	-	-	H
	<i>Philemon corniculatus</i>	Noisy Friarbird	-	-	OH
	<i>Phylidonyris nigra</i>	White-cheeked Honeyeater	-	-	O
Motacillidae	<i>Anthus novaeseelandiae</i>	Richard's Pipit	-	-	O

Family Name	Scientific Name	Common Name	EPBC Act ¹	TSC Act ²	Observation type
Muscicapidae	<i>Cinclorhamphus mathewsi</i>	Rufous Songlark	-	-	OH
	<i>Cisticola exilis</i>	Golden-headed Cisticola	-	-	H
Oriolidae	<i>Oriolus sagittatus</i>	Olive-backed Oriole	-	-	H
Pachycephalidae	<i>Colluricincla harmonica</i>	Grey Shrike-thrush	-	-	H
	<i>Pachycephala rufiventris</i>	Rufous Whistler	-	-	H
Pardalotidae	<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	-	-	OH
	<i>Acanthiza lineata</i>	Striated Thornbill	-	-	H
	<i>Acanthiza pusilla</i>	Brown Thornbill	-	-	OH
	<i>Gerygone olivacea</i>	White-throated Gerygone	-	-	H
	<i>Pardalotus punctatus</i>	Spotted Pardalote	-	-	H
	<i>Pardalotus striatus</i>	Striated Pardalote	-	-	H
	<i>Sericornis frontalis</i>	White-browed Scrubwren	-	-	H
Passeridae	<i>Neochmia temporalis</i>	Red-browed Finch	-	-	OH
	<i>Stagonopleura guttata</i>	Diamond Firetail	-	V	O
Phalacrocoracidae	<i>Phalacrocorax carbo</i>	Great Cormorant	-	-	O
	<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant	-	-	O
	<i>Phalacrocorax varius</i>	Pied Cormorant	-	-	O
Phasianidae	<i>Coturnix pectoralis</i>	Stubble Quail	-	-	OH
Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian Grebe	-	-	O
Psittacidae	<i>Alisterus scapularis</i>	Australian King-Parrot	-	-	H
	<i>Platycercus elegans</i>	Crimson Rosella	-	-	OH
	<i>Platycercus eximius</i>	Eastern Rosella	-	-	OH
	<i>Psephotus haematonotus</i>	Red-rumped Parrot	-	-	OH
Rallidae	<i>Fulica atra</i>	Eurasian Coot	-	-	O
Strigidae	<i>Ninox novaeseelandiae</i>	Southern Boobook	-	-	H
	<i>Ninox strenua</i>	Powerful Owl	-	V	H
Threskiornithidae	<i>Threskiornis spinicollis</i>	Straw-necked Ibis	-	-	O
Zosteropidae	<i>Zosterops lateralis</i>	Silvereye	-	-	O
Mammals					
Bovidae	<i>Capra hircus</i>	Goat (feral)	-	U	O
Canidae	<i>Vulpes vulpes</i>	Fox	-	U	O
	<i>Canis familiaris</i>	Dog	-	U	S
Cervidae	<i>Dama dama</i>	Fallow Deer	-	U	O
Dasyuridae	<i>Antechinus flavipes</i>	Yellow-footed Antechinus	-	-	O
Felidae	<i>Felis catus</i>	Cat (feral)	-	U	O

Family Name	Scientific Name	Common Name	EPBC Act ¹	TSC Act ²	Observation type
Leporidae	<i>Oryctolagus cuniculus</i>	Rabbit	-	U	OSX
	<i>Lepus capensis</i>	Hare	-	-	OIC
Muridae	<i>Mus musculus</i>	House Mouse	-	U	T
Macropodidae	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	-	-	OS
	<i>Macropus robustus</i>	Common Wallaroo	-	-	OSX
	<i>Macropus rufogriseus</i>	Red-necked Wallaby	-	-	RICS
	<i>Wallabia bicolor</i>	Swamp Wallaby	-	-	O
Molossidae	<i>Mormopterus sp. 3</i>	freetail bat	-	-	AD
	<i>Mormopterus sp. 4</i>	freetail bat	-	-	AD
	<i>Tadarida australis</i>	White-striped Freetail Bat	-	-	HAD
Petauridae	<i>Petauroides volans</i>	Greater Glider	-	-	O
	<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	-	-	O
Phalangeridae	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	-	-	O
Vespertilionidae	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	AD
	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	-	-	AD
	<i>Chalinolobus morio</i>	Chocolate Wattled Bat	-	-	AD
	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	-	V	AP
	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	-	V	AM
	<i>Myotis macropus</i>	Southern Myotis	-	V	AM
	<i>Nyctophilus sp.</i>	long-eared bat	-	-	AD
	<i>Scotorepens greyii</i>	Little Broad-nosed Bat	-	-	AM
	<i>Vespadelus darlingtoni</i>	Large Forest Bat	-	-	AD
	<i>Vespadelus vulturinus</i>	Little Forest Bat	-	-	T
Vombatidae	<i>Vombatus ursinus</i>	Common Wombat	-	-	IC
Reptiles					
Agamidae	<i>Amphibolurus nobbi coggeri</i>	Nobbi Dragon	-	-	O
	<i>Physignathus lesueurii</i>	Eastern Water Dragon	-	-	O
	<i>Pogona barbata</i>	Bearded Dragon	-	-	O
Elapidae	<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake	-	-	O
	<i>Pseudonaja textilis</i>	Eastern Brown Snake	-	-	O
Scincidae	<i>Ctenotus taeniolatus</i>	Copper-tailed Skink	-	-	O
	<i>Egernia cunninghami</i>	Cunningham's Skink	-	-	O
	<i>Lampropholis guichenoti</i>	Garden Skink	-	-	O

Family Name	Scientific Name	Common Name	EPBC Act¹	TSC Act²	Observation type
	<i>Trachydosaurus rugosus</i>	Shingleback	-	-	O
Varanidae	<i>Varanus varius</i>	Lace Monitor	-	-	O

Key:

Species in bold are listed as threatened or migratory under the TSC Act or EPBC Act.

U = introduced species; O = observed; H = heard; IC = infra-red camera; T = trapped; S = scat; X = in predator scat; R = roadkill; AD = confidence in Anabat recording identification is 'definite'; AP = confidence in Anabat recording identification is 'probable'; and, AM = confidence in Anabat recording identification is 'possible'.