

APPENDIX

INLAND
RAIL

B

Biodiversity Technical Report

PART 3 OF 6

Appendices D to G

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT



AR^{TC}

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.

APPENDIX

B

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Appendix D Fauna Data

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ARTC

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Appendix D

Fauna data

Table F1 Location of fauna assessments

PCT Type and IBRA subregion	Latitude	Longitude	Survey start date	Habitat assessment	Morning chorus	Spotlighting and call playback	Ultrasonic recorder	Camera traps
147_BP1_High	-28.987	150.4216	23/10/2019	x	3 x 20 min surveys	3 nights	5 nights	N/A
192_BP5_High	-28.8438	150.2886	23/10/2019	x	3 x 20 min surveys	1 night	N/A	7 nights
192_CB_Low	-28.6736	150.4489	3/10/2018	x	N/A	N/A	N/A	N/A
192_CB_Med	-28.6712	150.451	26/10/2019	x	N/A	2 nights	N/A	14 nights
244_CB_Med	-28.7291	150.4192	27/10/2019	x	3 x 20 min surveys	3 nights	N/A	12 nights
244_NB_High	-28.7938	150.4117	2/10/2018, 28/10/2019	x	3 x 20 min surveys	5 nights	4 nights	12 nights
244_NB_Med	-28.7412	150.4166	27/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
247_CB_Med	-28.7357	150.4199	26/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
35_BP11_High	-28.8271	150.5652	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
35_BP2_Low	-29.0151	150.373	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
35_BP25_High	-28.8652	150.5328	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	14 nights
35_BP26_High	-28.8242	150.3016	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
35_BP7_High	-28.8446	150.4071	23/10/2019	x	3 x 20 min surveys	3 nights	5 nights	5 nights
35_BP9_High	-28.7915	150.5603	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	14 nights
35_NB_High	-28.8282	150.4058	28/10/2019	x	3 x 20 min surveys	3 nights	7 nights	14 nights
35_NB_Low	-28.9084	150.3949	2/10/2018	x	N/A	N/A	N/A	N/A
35_NO_High	-28.8417	150.4067	5/10/2018	x	N/A	N/A	N/A	N/A
36_CB_High	-28.6662	150.4526	5/10/2018, 26/10/2019	x	3 x 20 min surveys	6 nights	4 nights	31 nights
36_NO_High	-28.8485	150.404	4/10/2018	x	N/A	2 nights	4 nights	N/A
418_BP2_High	-29.0155	150.3714	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A

PCT Type and IBRA subregion	Latitude	Longitude	Survey start date	Habitat assessment	Morning chorus	Spotlighting and call playback	Ultrasonic recorder	Camera traps
418_BP9_High	-28.7957	150.5625	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	10 nights
52_CB_Med	-28.6788	150.4393	5/10/2018, 26/10/2019	x	3 x 20 min surveys	4 nights	N/A	N/A
52_CB_Med	-28.6832	150.4243	26/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
53_NB_Med	-28.7747	150.4097	28/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
55_NB_High	-28.7725	150.4111	28/10/2019	x	3 x 20 min surveys	3 nights	N/A	14 nights
56_BP7_High	-28.842	150.4095	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
56_BP8_Med	-28.793	150.4012	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
56_NB_High	-28.7614	150.4123	27/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
56_NB_High	-28.7816	150.4091	27/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
56_NB_Med	-28.9282	150.3973	23/10/2019	x	3 x 20 min surveys	3 nights	4 nights (Oct 2018)	4 nights (Oct 2018)
56_NO_Med	-28.8697	150.4023	4/10/2018	x	N/A	2 nights	4 nights (Oct 2018)	5 nights
628_CB_Med	-28.6949	150.4132	27/10/2019	x	3 x 20 min surveys	3 nights	4 nights (Oct 2018)	N/A
98_BP13_High	-28.7487	150.2648	23/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A
98_NB_High	-28.8169	150.407	28/10/2019	x	3 x 20 min surveys	3 nights	N/A	N/A

Table F2 Ultrasonic bat call detectors

PCT	Detector unit	Location	Number of nights	Habitat notes
244_NB_High	SM1	-28.793363, 150.411567	4	<i>Eucalyptus populnea</i> woodland on alluvial clay-loam soils with a shrub layer of <i>Geijera parviflora</i> and <i>Eremophila mitchellii</i> . <i>Harrisia</i> sp. occurred in the ground layer. This site contained both small and large tree hollows, fallen logs and course litter. Occasional large trees remained (10%); however the site was dominated by trees of <15 cm diameter at breast height (DBH) (80 per cent).
36_CB_High	SM2	-28.666403, 150.452838	4	Tall <i>Eucalyptus camaldulensis</i> riparian forest along the Macintyre River. The site contained an abundance of old-growth <i>Eucalyptus camaldulensis</i> trees, each with numerous large hollows. The shrub layer was dominated by the exotic species <i>Vachellia farnesiana</i> and <i>Abutilon</i> sp; both of which provided dense cover and habitat for birds and mammals. Fallen logs, stags and ground litter occurred within the site.
628_CB_High	SM3	-28.694566, 150.414270	4	<i>Eucalyptus populnea</i> and <i>Eucalyptus camaldulensis</i> grassy woodland on floodplain clay-loam soil. The site was heavily impacted by cattle and had a bare shrub layer. The remnant trees, though scattered, all contained both large and small tree hollows, and fallen logs and stags were common. Ground litter and grass also occurred.
36_NO_High	SM4	-28.868073, 150.401201	4	Tall <i>Eucalyptus camaldulensis</i> fringing woodland along Mobbidity Creek. The site contained old-growth <i>Eucalyptus camaldulensis</i> trees, with an abundance of large tree hollows and stags. The understorey was disturbed and contained an open shrub layer and a ground layer of both native and exotic grass species. Large fallen logs and fine and coarse litter occurred within the riparian zone and small stones and soil cracks occurred within the dry creek bed.
56_NO_Med	SM5	-28.844672, 150.399298	5	<i>Acacia harpophylla</i> , <i>Casuarina cristata</i> and <i>Eucalyptus populnea</i> woodland on alluvial. <i>Eremophila mitchellii</i> occurred in the shrub layer. The site contained occasional tree hollows and fallen timber, and soil cracks. Historic clearing may have occurred in the site as the majority of trees (95 per cent) had a DBH of <15 cm.
35_NB_High	N/A	-28.8282, 150.4058	7	<i>Geijera parviflora</i> , <i>Eremophila mitchellii</i> with apparent historical clearing due to lack of hollow trees and ground timber. Areas with bare ground were abundant with ground layer vegetation consisting of <i>Ancistrachne uncinulata</i> , <i>Enteropogon acicularis</i> and <i>Rhagodia spinescens</i> .
35_NO_High	N/A	-28.8446, 150.4071	5	<i>Acacia harpophylla</i> , <i>Geijera parviflora</i> , <i>Eremophila mitchellii</i> with apparent historical clearing due to lack of hollow trees and ground timber. Areas with bare ground were abundant with ground layer vegetation consisting of <i>Ancistrachne uncinulata</i> , <i>Enteropogon acicularis</i> and <i>Rhagodia spinescens</i> .
147_NB_High	NA	-28.987, 150.4216	5	<i>Eucalyptus melanophloia</i> woodland with <i>Geijera parviflora</i> , <i>Croton phebaloides</i> and <i>Carissa ovata</i> shrub layer. Historical clearing and severe grazing evident. Few trees with hollows 1-5 cm at a height of 4 m and 10-20 cm hollows at 5 m.
Total			38	

Table F3 Camera trap locations

PCT	Location	Number of camera traps	Number of nights	Habitat notes
244_NB_High	-28.793824, 150.411777	3	2	<i>Eucalyptus populnea</i> woodland on alluvial clay-loam soils with a shrub layer of <i>Geijera parviflora</i> and <i>Eremophila mitchellii</i> . <i>Harrisia</i> sp. occurred in the ground layer. This site contained both small and large tree hollows, fallen logs and course litter. Occasional large trees remained (10 per cent); however the site was dominated by trees of <15 cm diameter at breast height (DBH) (80 per cent).
Non-remnant vegetation (dam) adjacent to 244 High	-28.790266, 150.418004	3	2	Non-remnant, freshwater dam. The edges of the dam were heavily cattle tramped; however aquatic macrophytes and fallen timber surrounded the water's edge which provided cover for small birds and mammals.
36_NO_Med	-28.867995, 150.401294	3	4	Tall <i>Eucalyptus camaldulensis</i> fringing woodland along Mobbindry Creek. The site contained old-growth <i>Eucalyptus camaldulensis</i> trees, with an abundance of large tree hollows and stags. The understorey was disturbed and contained an open shrub layer and a ground layer of both native and exotic grass species. Large fallen logs and fine and coarse litter occurred within the riparian zone and small stones and soil cracks occurred within the dry creek bed.
36_CB_High	-28.665560, 150.454566	5	3	Tall <i>Eucalyptus camaldulensis</i> riparian forest along the Macintyre River. The site contained an abundance of old-growth <i>Eucalyptus camaldulensis</i> trees, each with numerous large hollows. The shrub layer was dominated by the exotic species <i>Vachellia farnesiana</i> and <i>Abutilon</i> sp; both of which provided dense cover and habitat for birds and mammals. Fallen logs, stags and ground litter occurred within the site.
36_CB_High	-28.6662, 150.4526	2	7	Riparian area dominated by <i>Eucalyptus camaldulensis</i> with an abundance of flowers and hollows 1-10 cm in size and occasional to common occurrence of hollows 10-20 cm+ at 10 m in height. Fallen logs and decorticating bark were also common. Other trees include <i>Melaleuca bracteata</i> and a shrub layer included <i>Acacia floribunda</i> and <i>Vachellia farnesiana</i> . Site located along the Macintyre River. Camera traps located above 1.5 m facing tree trunk aiming to target squirrel glider and pygmy possum
192_CB_Med	-28.6712, 150.4510	2	7	Grassy woodland containing scattered trees including <i>Eucalyptus camaldulensis</i> and <i>Eucalyptus melanophloia</i> containing occasional hollows 1-20 cm in size at heights of 5-8 m. Shrubs include <i>Acacia salisina</i> and <i>Vachellia farnesiana</i> with a ground layer of exotic grass species, <i>Rhagodia spinescens</i> and <i>Harrisia</i> sp. Camera traps located above 1.5 m facing tree trunk aiming to target squirrel glider and pygmy possum
55_NB_High	-28.7725, 150.4111	2	7	Site with a high abundance of bare ground. Hollows rare for all size categories occurring at above 5 m. Ground cover of <i>Harrisia</i> sp. and <i>Vachellia farnesiana</i> . Camera traps located below 50 cm targeting Rufous bettong.
35_NB_High	-28.8282, 150.4058	2	7	Trees comprised primarily of <i>Geijera parviflora</i> and <i>Eremophila mitchellii</i> with ground vegetation consisting of <i>Enteropogon acicularis</i> and <i>Rhagodia spinescens</i> . The site had undergone clearing 10+ years previously. Tree hollows were scarce, and the site comprised of bare open ground. Camera traps located below 50 cm targeting Rufous bettong

PCT	Location	Number of camera traps	Number of nights	Habitat notes
35_NO_High	-28.8446, 150.4071	1	5	Mature trees consisted of <i>Eucalyptus populnea</i> , <i>Acacia harpophylla</i> and <i>Geijera parviflora</i> . There was a moderate abundance of hollows from 1-20 cm with hollows larger than 20 cm being scarce. There was a moderate abundance of fallen logs and tussock grasses providing microhabitat for small terrestrial fauna. Much of the site was bare ground with evidence of previous clearing and grazing.
192_BP5_Med	-28.8438, 150.2886	1	7	Grassy woodland with tree species including <i>Eucalyptus populnea</i> , <i>Eucalyptus melanophloia</i> , <i>Geijera parviflora</i> and <i>Acacia excelsa</i> . The predominant small tree/large shrubs were <i>Apophyllum anomalum</i> and <i>Santalum lanceolatum</i> . There was a moderate to high abundance of hollows 1-20 cm in size and high abundance of mistletoe.
35_BP9_High	-28.7915, 150.5603	2	7	Open brigalow – belah woodland consisting of <i>Acacia harpophylla</i> , <i>Casuarina cristata</i> , <i>Geijera parviflora</i> and <i>Santalum lanceolatum</i> as the dominant tree species. The dominant shrub was <i>Carissa ovata</i> and ground cover of <i>Ancistrachne uncinate</i> . No tree hollows were present, decortinating bark was in moderate abundance and fallen logs were rare. Camera traps located at the site were placed above 1.5 m facing tree trunk aiming to target squirrel glider and pygmy possum.
418_BP9_High	-28.7957, 150.5625	2	5	Camera traps located above 1.5 m facing tree trunk aiming to target squirrel glider and pygmy possum
35_BP25_High	-28.8652, 150.5328	2	7	Open woodland with trees including <i>Geijera parviflora</i> , <i>Callitris glaucophylla</i> , <i>Capparis mitchellii</i> , <i>Santalum lanceolatum</i> and ground cover of <i>Ancistrachne uncinate</i> , <i>Cenchrus ciliaris</i> , and <i>Aristida</i> sp. There was a low severity of historic clearing although grazing had been moderately severe within the last year. Hollows, fallen logs and decortinating bark was rare. Camera traps located above 1.5 m facing tree trunk aiming to target squirrel glider and pygmy possum.
Total		145		

Table F4 Fauna species list

Species name	Common name	Fauna habitat type/PCT										
		Eucalyptus camaldulensis tall open forest/woodland	Eucalyptus populnea woodland on alluvial plains	Eucalyptus populnea and Casuarina cristata woodland on alluvial plains	Corymbia tessellaris +/- E. coolabah grassy woodland on floodplain	Lignum swamp 247	Qld bluegrass +/- Mitchell grass on cracking clay floodplains 52	Shallow wetland in depression on floodplain 53	Evergreen vine thicket on basalt soils 147	Non-native vegetation	White cypress pine – Silver-leaved ironbark – Wilga shrub grass woodland 418	Incidental
Amphibians												
<i>Limnodynastes tasmaniensis</i>	Spotted marsh frog		x									
<i>Litoria brevipalmata</i>	Green-thighed frog		x									
<i>Litoria peronii</i>	Emerald-spotted tree frog	x	x									
<i>Litoria rubella</i>	Desert tree frog		x									
<i>Platyplectrum ornatum</i>	Ornate burrowing frog	x										
Birds												
<i>Acanthagenys rufogularis</i>	Spiny-cheeked honeyeater	x	x	x						x	x	
<i>Acanthiza apicalis</i>	Inland thornbill		x	x								
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped thornbill		x	x						x		
<i>Acanthiza nana</i>	Yellow thornbill		x	x					x			
<i>Acanthiza pusilla</i>	Brown thornbill		x	x					x			

Species name	Common name	Fauna habitat type/PCT										
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<i>Acanthiza reguloides</i>	Buff-rumped thornbill		x									
<i>Acanthiza uropygialis</i>	Chestnut-rumped thornbill		x									
<i>Aegotheles cristatus</i>	Owlet nightjar		x	x	x		x	x				
<i>Alcedo azurea</i>	Azure kingfisher	x										
<i>Anas gracilis</i>	Grey teal	x	x							x		
<i>Anas superciliosa</i>	Pacific black duck	x	x							x		
<i>Anhinga novaehollandiae</i>	Australasian darter	x								x		
<i>Anthus novaeseelandiae</i>	Australasian pipit					x	x					
<i>Aprosmictus erythropterus</i>	Red-winged parrot	x	x	x		x		x				
<i>Aquila audax</i>	Wedge-tailed eagle	x	x	x			x			x		
<i>Ardea intermedia</i>	Intermediate egret	x										
<i>Ardea modesta</i>	Eastern great egret											
<i>Artamus leucorynchus</i>	White-breasted woodswallow	x	x	x								
<i>Aythya australis</i>	Hardhead		x							x		

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<i>Barnardius zonarius</i>	Australian ringneck		x	x				x	x		x	
<i>Bubulcus ibis</i>	Cattle egret	x										
<i>Cacatua galerita</i>	Sulphur-crested cockatoo	x	x	x	x	x	x	x		x		
<i>Cacatua sanguinea</i>	Little corella	x	x	x								
<i>Calyptorhynchus banksia</i>	Red-tailed black cockatoo		x									
<i>Calyptorhynchus lathami</i>	Glossy black cockatoo			x								
<i>Cacomantis pallidus</i>	Pallid cuckoo		x							x		
<i>Centropus phasianinus</i>	Pheasant coucal	x										
<i>Chalcites basalis</i>	Horsefield's bronze-cuckoo			x								
<i>Chenonetta jubata</i>	Australian wood duck	x	x	x			x			x		
<i>Circus assimilis</i>	Spotted harrier			x						x		
<i>Columbia livia</i>	Rock dove		x									
<i>Colluricincla harmonica</i>	Grey shrike-thrush	x										
<i>Columbia livia</i> *	Rock dove		x									

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<i>Coracina novaehollandiae</i>	Black-faced cuckoo-shrike	x	x	x					x		x	
<i>Corcorax melanorhamphos</i>	White-winged chough	x	x	x							x	x
<i>Corvus coronoides</i>	Australian raven	x	x					x				
<i>Corvus orru</i>	Torresian crow	x	x	x	x		x				x	
<i>Cracticus nigrogularis</i>	Pied butcherbird	x	x	x	x	x	x		x		x	
<i>Cracticus tibicen</i>	Australian magpie	x	x	x	x		x	x	x		x	x
<i>Cracticus torquatus</i>	Grey butcherbird	x	x	x	x				x		x	
<i>Dacelo novaeguineae</i>	Laughing kookaburra	x	x	x	x						x	x
<i>Daphoenositta chrysoptera</i>	Varied sittella			x								
<i>Dendrocygna eytoni</i>	Plumed whistling duck		x									
<i>Dicaeum hirundinaceum</i>	Mistletoebird		x	x				x			x	
<i>Dendrocygna eytoni</i>	Plumed whistling-duck											x
<i>Dromaius novaehollandiae</i>	Emu		x	x			x				x	

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<i>Egretta novaehollandiae</i>	White-faced heron	x										
<i>Elseyornis melanops</i>	Black-fronted dotterel		x							x		
<i>Entomyzon cyanotis</i>	Blue-faced honeyeater		x	x	x						x	
<i>Eolophus roseicapillus</i>	Galah	x	x	x	x	x	x	x		x	x	
<i>Eopsaltria australis</i>	Eastern yellow robin			x					x			
<i>Erythrogenys cinctus</i>	Red-kneed dotterel		x									
<i>Eudynamys orientalis</i>	Eastern koel		x									
<i>Eurystomus orientalis</i>	Dollarbird	x	x									
<i>Falco berigora</i>	Brown falcon									x	x	
<i>Falco cenchroides</i>	Nankeen kestrel		x							x	x	
<i>Falco longipennis</i>	Australian hobby	x										
<i>Falcunculus frontatus</i>	Crested shrike-tit	x										
<i>Gallinago hardwickii</i>	Latham's snipe									x		
<i>Geopelia humeralis</i>	Bar-shouldered dove	x	x	x					x		x	

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<i>Geopelia striata</i>	Peaceful dove	x	x	x								x
<i>Gerygone albogularis</i>	White-throated gerygone	x	x									
<i>Gerygone fusca</i>	Western gerygone	x	x	x			x					
<i>Gerygone olivacea</i>	White-throated gerygone	x										
<i>Grallina cyanoleuca</i>	Magpie-lark	x	x	x		x		x		x	x	x
<i>Grantiella picta</i>	Painted honeyeater		x									
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle	x										
<i>Haliastur sphenurus</i>	Whistling kite	x	x			x	x			x		
<i>Himantopus himantopus</i>	Black-winged stilt		x	x								
<i>Hirundo neoxena</i>	Welcome swallow	x	x		x					x		
<i>Hydroprogne caspia</i>	Caspian tern	x										
<i>Lalage sueurii</i>	White-winged triller		x				x			x	x	
<i>Lichenostomus penicillatus</i>	White-plumed honeyeater	x								x		

Species name	Common name	Fauna habitat type/PCT										
		Eucalyptus camaldulensis tall open forest/ woodland 36	Eucalyptus populnea woodland on alluvial plains 27,56,98, 244,192	Eucalyptus populnea and Casuarina cristata woodland on alluvial plains 35,55	Corymbia tessellaris +/- E. coolabah grassy woodland on floodplain 628	Lignum swamp 247	Qld bluegrass +/- Mitchell grass on cracking clay floodplains 52	Shallow wetland in depression on floodplain 53	Evergreen vine thicket on basalt soils 147	Non-native vegetation	White cypress pine – Silver-leaved ironbark – Wilga shrub grass woodland 418	Incidental
<i>Lichenostomus virescens</i>	Singing honeyeater		x	x					x		x	
<i>Lichmera indistincta</i>	Brown honeyeater	x		x								
<i>Malacorhynchus membranaceus</i>	Pink-eared duck	x									x	
<i>Malurus cyaneus</i>	Superb fairy-wren	x	x	x					x		x	
<i>Malurus lamberti</i>	Variegated fairy-wren	x	x	x							x	
<i>Malurus leucopterus</i>	White-winged fairy-wren		x			x						
<i>Manorina flavigula</i>	Yellow-throated miner		x	x		x						
<i>Manorina melanocephala</i>	Noisy miner	x	x	x	x	x	x	x				
<i>Megalurus cruralis</i>	Brown songlark						x					
<i>Megalurus gramineus</i>	Little grassbird		x									
<i>Melithreptus albogularis</i>	White-throated honeyeater	x										
<i>Merops ornatus</i>	Rainbow bee-eater			x								
<i>Microcarbo melanoleucus</i>	Little pied cormorant	x										

Species name	Common name	Fauna habitat type/PCT										
		Eucalyptus camidulen sis tall open forest/ woodland 36	Eucalyptus populnea woodland on alluvial plains 27,56,98, 244,192	Eucalyptus populnea and Casuarina cristata woodland on alluvial plains 35,55	Corymbia tessellaris +/- E. coolabah grassy woodland on floodplain 628	Lignum swamp 247	Qld bluegrass +/- Mitchell grass on cracking clay floodplains 52	Shallow wetland in depression on floodplain 53	Evergreen vine thicket on basalt soils 147	Non-native vegetation	White cypress pine – Silver-leaved ironbark – Wilga shrub grass woodland 418	Incidental
<i>Microeca fascinans</i>	Jacky winter		x						x			
<i>Milvus migrans</i>	Black kite		x			x						x
<i>Myiagra cyanoleuca</i>	Satin flycatcher	x										
<i>Myiagra inquieta</i>	Restless flycatcher	x		x								
<i>Myiagra rubecula</i>	Leaden flycatcher		x	x								
<i>Neochmia temporalis</i>	Red-browed finch	x	x									
<i>Ninox novaeseelandiae</i>	Southern boobook	x	x					x				
<i>Northiella haematogaster</i>	Blue bonnet			x		x					x	
<i>Nycticorax caledonicus</i>	Nankeen night-heron	x										
<i>Nymphicus hollandicus</i>	Cockatiel	x	x	x		x	x	x		x		
<i>Ocyphaps lophotes</i>	Crested pigeon	x	x	x				x	x		x	x
<i>Oreoica gutturalis</i>	Crested bellbird			x								
<i>Oriolus sagittatus</i>	Olive-backed oriole		x	x					x			
<i>Pachycephala rufiventris</i>	Rufous whistler	x	x	x				x	x			

Species name	Common name	Fauna habitat type/PCT										
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<i>Pardalotus striatus</i>	Striated pardalote	x									x	
<i>Pelecanus conspicillatus</i>	Australian pelican		x	x							x	x
<i>Petrochelidon ariel</i>	Fairy martin	x				x						
<i>Petrochelidon nigricans</i>	Tree martin			x			x					
<i>Petroica boodang</i>	Scarlet robin								x			
<i>Petroica goodenovii</i>	Red-capped robin		x	x								
<i>Phalacrocorax sulcirostris</i>	Little black cormorant	x									x	
<i>Phalacrocorax varius</i>	Pied cormorant										x	
<i>Philemon citreogularis</i>	Little friarbird	x	x	x								
<i>Philemon corniculatus</i>	Noisy friarbird	x	x	x								x
<i>Platea flavipes</i>	Yellow-billed spoonbill			x								
<i>Platalea regia</i>	Royal spoonbill		x								x	
<i>Platycercus adscitus</i>	Pale-headed rosella	x	x	x		x						
<i>Platycercus eximius</i>	Eastern rosella	x										

Species name	Common name	Fauna habitat type/PCT										
		Eucalyptus camidulen sis tall open forest/ woodland 36	Eucalyptus populnea woodland on alluvial plains 27,56,98, 244,192	Eucalyptus populnea and Casuarina cristata woodland on alluvial plains 35,55	Corymbia tessellaris +/- E. coolabah grassy woodland on floodplain 628	Lignum swamp 247	Qld bluegrass +/- Mitchell grass on cracking clay floodplains 52	Shallow wetland in depression on floodplain 53	Evergreen vine thicket on basalt soils 147	Non-native vegetation	White cypress pine – Silver-leaved ironbark – Wilga shrub grass woodland 418	Incidental
<i>Plectorhyncha lanceolata</i>	Striped honeyeater	x	x	x					x		x	
<i>Podargus strigoides</i>	Tawny frogmouth	x	x	x				x				
<i>Pomatostomus temporalis</i>	Grey-crowned babbler	x	x	x	x	x		x				x
<i>Psephotus haematonotus</i>	Red-rumped parrot		x	x		x		x				x
<i>Ptilonorhynchus maculatus</i>	Spotted bowerbird		x	x						x		
<i>Rhipidura albiscapa</i>	Grey fantail		x	x								x
<i>Rhipidura leucophrys</i>	Willie wagtail	x	x	x			x	x	x		x	
<i>Scythrops novaehollandiae</i>	Channel-billed cuckoo	x	x				x					
<i>Smicromis brevirostris</i>	Weebill	x	x	x			x	x	x		x	
<i>Strepera graculina</i>	Pied currawong		x	x				x				
<i>Struthidea cinerea</i>	Apostlebird	x	x	x	x						x	
<i>Sturnus tristis</i> *	Common myna		x	x						x	x	
<i>Sturnus vulgaris</i> *	Common starling									x		

Species name	Common name	Fauna habitat type/PCT										
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<i>Tachybaptus novaehollandiae</i>	Australasian grebe		x								x	
<i>Taeniopygia bichenovii</i>	Double-barred finch		x	x							x	
<i>Taeniopygia guttata</i>	Zebra finch			x								
<i>Threskiornis molucca</i>	Australian white ibis	x		x								x
<i>Threskiornis spinicollis</i>	Straw-necked ibis	x		x		x						
<i>Todiramphus pyrrhopygius</i>	Red-backed kingfisher				x							
<i>Todiramphus sanctus</i>	Sacred kingfisher	x	x	x								x
<i>Trichoglossus haematodus</i>	Rainbow lorikeet			x		x						x
<i>Tyto javanica</i>	Eastern barn owl								x			
<i>Vanellus miles</i>	Masked lapwing		x	x				x			x	
<i>Vanellus tricolor</i>	Banded lapwing			x								
<i>Zosterops lateralis</i>	Silvereye	x		x								
Mammals												
<i>Austronomus australis</i>	White-striped free-tailed bat	x	x			x						

Species name	Common name	Fauna habitat type/PCT										
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<i>Camelus dromedaries</i>	Camel			x								
<i>Canis lupus</i> *	Dog	x										
<i>Chalinolobus gouldii</i>	Gould's wattled bat	x	x			x						
<i>Chalinolobus picatus</i>	Little pied bat	x	x			x						
<i>Felis catus</i> *	Cat	x	x	x				x	x		x	x
<i>Lepus europaeus</i> *	Brown hare		x	x	x						x	
<i>Macropus giganteus</i>	Eastern grey kangaroo	x	x	x	x	x	x		x		x	x
<i>Macropus rufogriseus</i>	Red-necked wallaby			x								x
<i>Macropus rufus</i>	Red kangaroo						x				x	
<i>Miniopterus schreibersii oceanensis</i>	Eastern bent-wing bat	x	x			x						
<i>Mormopterus lumsdenae</i>	Northern free-tailed bat	x	x			x						
<i>Mormopterus petersi</i>	Inland free-tailed bat		x									
<i>Mormopterus ridei</i>	Ride's free-tailed bat	x	x			x						
<i>Nyctophilus</i> sp.	Nyctophilus species	x	x			x						

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<i>Oryctolagus cuniculus</i> *	Rabbit											x
<i>Osphranter robustus erubescens</i>	Euro		x	x							x	
<i>Petaurus norfolkensis</i>	Squirrel glider	x	x									
<i>Phascolarctos cinereus</i>	Koala	x										
<i>Pteropus poliocephalus</i>	Grey-headed flying fox	x	x									
<i>Pteropus scapulatus</i>	Little red flying fox											
<i>Saccopteryx flaviventris</i>	Yellow-bellied sheathtail-bat	x	x			x						
<i>Scotorepens balstoni</i>	Inland broad-nosed bat	x	x			x						
<i>Scotorepens greyii</i>	Little broad-nosed bat	x	x									
<i>Sus scrofa</i> *	Pig	x	x	x	x				x		x	
<i>Tachyglossus aculeatus</i>	Short-beaked echidna	x							x			
<i>Trichosurus vulpecula</i>	Common brushtail possum	x	x	x	x	x			x		x	
<i>Vespadelus regulus/V. vulturnus</i>	Vesper bat species	x	x									

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<i>Vulpes vulpes</i> *	Fox	x	x	x	x		x	x			x	
<i>Wallabia bicolor</i>	Swamp wallaby	x	x	x							x	
<i>Capra hircus</i>	Goat			x								
Reptiles												
<i>Chelodina longicollis</i>	Eastern long-necked turtle		x								x	
<i>Diplodactylus tessellatus</i>	Tesselated gecko										x	
<i>Diplodactylus vittatus</i>	Eastern stone gecko		x	x								
<i>Egernia striolata</i>	Tree-crevice skink		x	x								
<i>Emydura macquarii</i>	Macquarie turtle	x										
<i>Furina diadema</i>	Red-naped snake				x							
<i>Gehyra dubia</i>	Dubious dtella	x	x	x	x							
<i>Heteronotia binoei</i>	Bynoe's gecko		x	x	x		x					
<i>Intellagama lesueuri</i>	Eastern water dragon	x										
<i>Lerista punctatovittata</i>	Eastern robust slider			x								
<i>Lucasium steindachneri</i>	Box-patterned gecko		x	x								

Species name	Common name	Fauna habitat type/PCT										
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<i>Morethia boulengeri</i>	Boulenger's snake-eyed skink		x									
<i>Pogona barbata</i>	Eastern bearded dragon		x									
<i>Pseudechis guttatus</i>	Spotted black snake		x									
<i>Pseudechis porphyriacus</i>	Red-bellied black snake			x								
<i>Varanus varius</i>	Lace monitor	x								x		
<i>Strophurus williamsi</i>	Eastern spiny-tailed gecko		x	x								x
<i>Suta suta</i>	Curl snake		x									
<i>Tiliqua rugosa</i>	Shingleback lizard						x					
<i>Vermicella annulate</i>	Bandy-bandy		x									

Table note:

* non-native

APPENDIX

B

INLAND
RAIL

Biodiversity Technical Report

Appendix E Desktop Search Results

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT

ARTC

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 05/08/19 14:34:54

[Summary](#)

[Details](#)

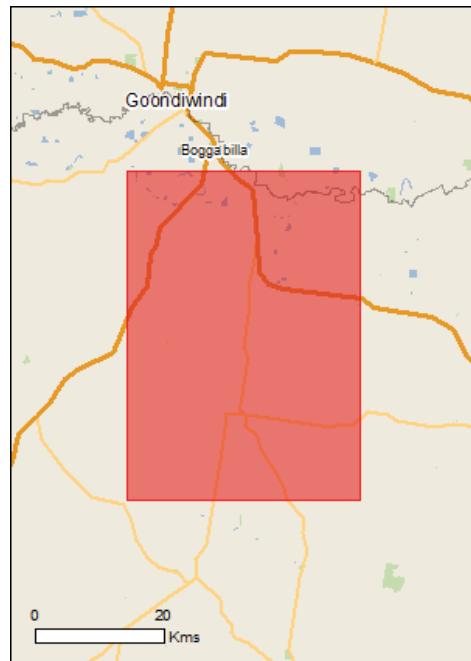
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

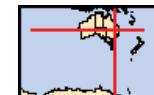
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	28
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	3
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	30
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[Resource Information]
Name	Proximity
Banrock station wetland complex	1000 - 1100km
Riverland	1000 - 1100km
The coorong, and lakes alexandrina and albert wetland	1200 - 1300km

Listed Threatened Ecological Communities	[Resource Information]
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For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species	[Resource Information]
---------------------------	--------------------------

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
<i>Hirundapus caudacutus</i> White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
<i>Lathamus discolor</i> Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area
<i>Rostratula australis</i> Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
<i>Maccullochella peelii</i> Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area
Mammals		
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
<i>Dasyurus maculatus</i> maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
<i>Nyctophilus corbeni</i> Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
<i>Petauroides volans</i> Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Plants		
<i>Androcalva procumbens</i> [87153]	Vulnerable	Species or species habitat likely to occur within area
<i>Cadellia pentastylis</i> Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
<i>Dichanthium setosum</i> bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
<i>Homopholis belsonii</i> Belson's Panic [2406]	Vulnerable	Species or species habitat may occur within area
<i>Swainsona murrayana</i> Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat may occur within area
<i>Thesium australe</i> Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
<i>Tylophora linearis</i> [55231]	Endangered	Species or species habitat may occur within area
<i>Westringia parvifolia</i> [4822]	Vulnerable	Species or species

Name	Status	Type of Presence habitat likely to occur within area
Reptiles		
<u>Anomalopus mackayi</u> Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area
<u>Delma torquata</u> Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
<u>Furina dunmalli</u> Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
<u>Uvidicolus sphyurus</u> Border Thick-tailed Gecko, Granite Belt Thick-tailed Gecko [84578]	Vulnerable	Species or species habitat may occur within area
Listed Migratory Species		
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Migratory Marine Birds		
<u>Apus pacificus</u> Fork-tailed Swift [678]	Threatened	Species or species habitat likely to occur within area
Migratory Terrestrial Species		
<u>Hirundapus caudacutus</u> White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
<u>Motacilla flava</u> Yellow Wagtail [644]		Species or species habitat may occur within area
<u>Myiagra cyanoleuca</u> Satin Flycatcher [612]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
<u>Actitis hypoleucos</u> Common Sandpiper [59309]		Species or species habitat may occur within area
<u>Calidris acuminata</u> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
<u>Calidris ferruginea</u> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<u>Calidris melanotos</u> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<u>Gallinago hardwickii</u> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
<u>Pandion haliaetus</u> Osprey [952]		Species or species habitat may occur within area
<u>Tringa nebularia</u> Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land

[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name

Commonwealth Land - Australian Telecommunications Commission
Commonwealth Land - Commonwealth Bank of Australia
Commonwealth Land - Telstra Corporation Limited

Listed Marine Species

[Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		

[Actitis hypoleucus](#)

Common Sandpiper [59309] Species or species habitat may occur within area

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat likely to occur within area

[Ardea alba](#)

Great Egret, White Egret [59541] Species or species habitat known to occur within area

[Ardea ibis](#)

Cattle Egret [59542] Species or species habitat may occur within area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874] Species or species habitat known to occur within area

[Calidris ferruginea](#)

Curlew Sandpiper [856] Critically Endangered Species or species habitat may occur within area

[Calidris melanotos](#)

Pectoral Sandpiper [858] Species or species habitat may occur within area

[Chrysococcyx osculans](#)

Black-eared Cuckoo [705] Species or species habitat known to occur within area

[Gallinago hardwickii](#)

Latham's Snipe, Japanese Snipe [863] Species or species habitat may occur within area

[Haliaeetus leucogaster](#)

White-bellied Sea-Eagle [943] Species or species habitat known to occur within area

[Hirundapus caudacutus](#)

White-throated Needletail [682] Vulnerable Species or species habitat may occur within area

[Lathamus discolor](#)

Swift Parrot [744] Critically Endangered Species or species habitat may occur within area

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area

[Motacilla flava](#)

Yellow Wagtail [644] Species or species

Name	Threatened	Type of Presence
<u>Myiagra cyanoleuca</u> Satin Flycatcher [612]		habitat may occur within area
<u>Pandion haliaetus</u> Osprey [952]		Species or species habitat likely to occur within area
<u>Rostratula benghalensis (sensu lato)</u> Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
<u>Tringa nebularia</u> Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves		[Resource Information]
Name Planchonella		State NSW

Invasive Species	[Resource Information]
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Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus africanus Climbing Asparagus, Climbing Asparagus Fern [66907]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
Nationally Important Wetlands		[Resource Information]
Name	State	
Morella Watercourse / Boobera Lagoon / Pungbougal Lagoon	NSW	

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-28.63379 150.23647,-28.63379 150.56056,-29.0356 150.56056,-29.0356 150.23647,-28.63379 150.23647

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
 - [Museum Victoria](#)
 - [Australian Museum](#)
 - [South Australian Museum](#)
 - [Queensland Museum](#)
 - [Online Zoological Collections of Australian Museums](#)
 - [Queensland Herbarium](#)
 - [National Herbarium of NSW](#)
 - [Royal Botanic Gardens and National Herbarium of Victoria](#)
 - [Tasmanian Herbarium](#)
 - [State Herbarium of South Australia](#)
 - [Northern Territory Herbarium](#)
 - [Western Australian Herbarium](#)
 - [Australian National Herbarium, Canberra](#)
 - [University of New England](#)
 - [Ocean Biogeographic Information System](#)
 - [Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

KingdomName	ClassName	FamilyName	ScientificName	CommonName	NSWStatus	CommStatus
Fauna	Aves	Acanthizidae	<i>Chthonicola sagittata</i>	Speckled Warbler	V,P	
Fauna	Aves	Accipitridae	<i>Circus assimilis</i>	Spotted Harrier	V,P	
Fauna	Aves	Accipitridae	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P	C
Fauna	Aves	Accipitridae	<i>Hieraetus morphnoides</i>	Little Eagle	V,P	
Fauna	Aves	Accipitridae	<i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3	
Fauna	Aves	Apodidae	<i>Hirundapus caudacutus</i>	White-throated Needletail	P	C,J,K
Fauna	Aves	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1,P	
Fauna	Aves	Climacteridae	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V,P	
Fauna	Aves	Meliphagidae	<i>Grantiella picta</i>	Painted Honeyeater	V,P	V
Fauna	Aves	Neosittidae	<i>Daphoenositta chrysopetra</i>	Varied Sittella	V,P	
Fauna	Aves	Petroicidae	<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	V,P	
Fauna	Aves	Pomatostomidae	<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V,P	
Fauna	Aves	Scolopacidae	<i>Gallinago hardwickii</i>	Latham's Snipe	P	C,J,K
Fauna	Aves	Threskiornithidae	<i>Plegadis falcinellus</i>	Glossy Ibis	P	C
Fauna	Insecta	Lycaenidae	<i>Jalmenus eubulus</i>	Pale Imperial Hairstreak	E4A,2	
Fauna	Mammalia	Emballonuridae	<i>Saccopteryx flaviventris</i>	Yellow-bellied Sheathtail-bat	V,P	
Fauna	Mammalia	Macropodidae	<i>Macropus dorsalis</i>	Black-striped Wallaby	E1,P	
Fauna	Mammalia	Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	V,P	V
Flora	Flora	Cyperaceae	<i>Cyperus conicus</i>		E1	
Flora	Flora	Poaceae	<i>Dichanthium setosum</i>	Bluegrass	V	V
Flora	Flora	Poaceae	<i>Homopholis belsonii</i>	Belson's Panic	E1	V

APPENDIX

B

INLAND
RAIL

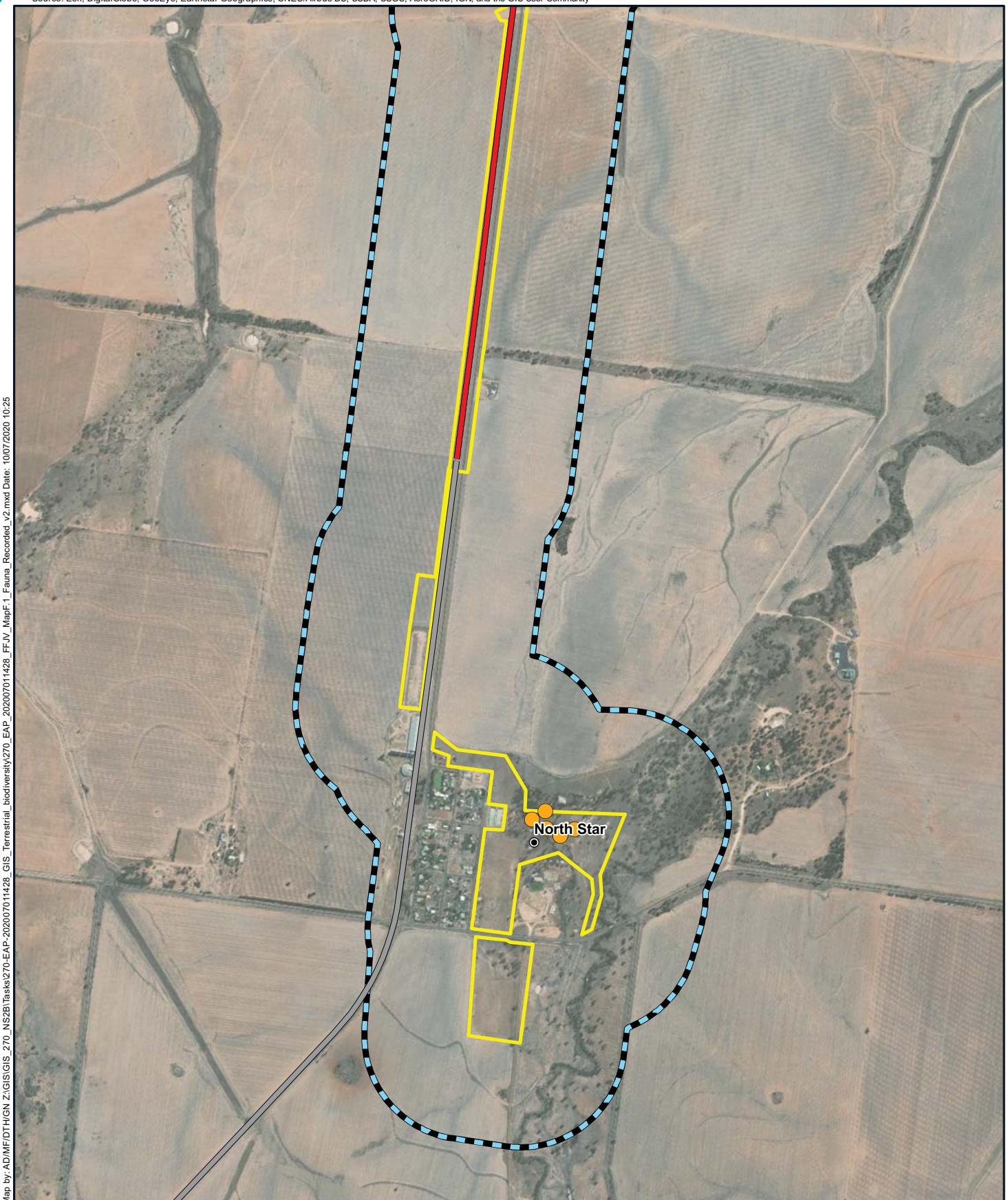
Biodiversity Technical Report

Appendix F Fauna Maps

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT

ARTC

The Australian Government is delivering
Inland Rail through the Australian
Rail Track Corporation (ARTC) in
partnership with the private sector.



Legend

- 5 Chainage (km)
- Localities
- Adjoining alignments
- North Star to NSW/QLD border alignment
- Subject land
- Study area

Conservation significant fauna species

- Grey-crowned babbler



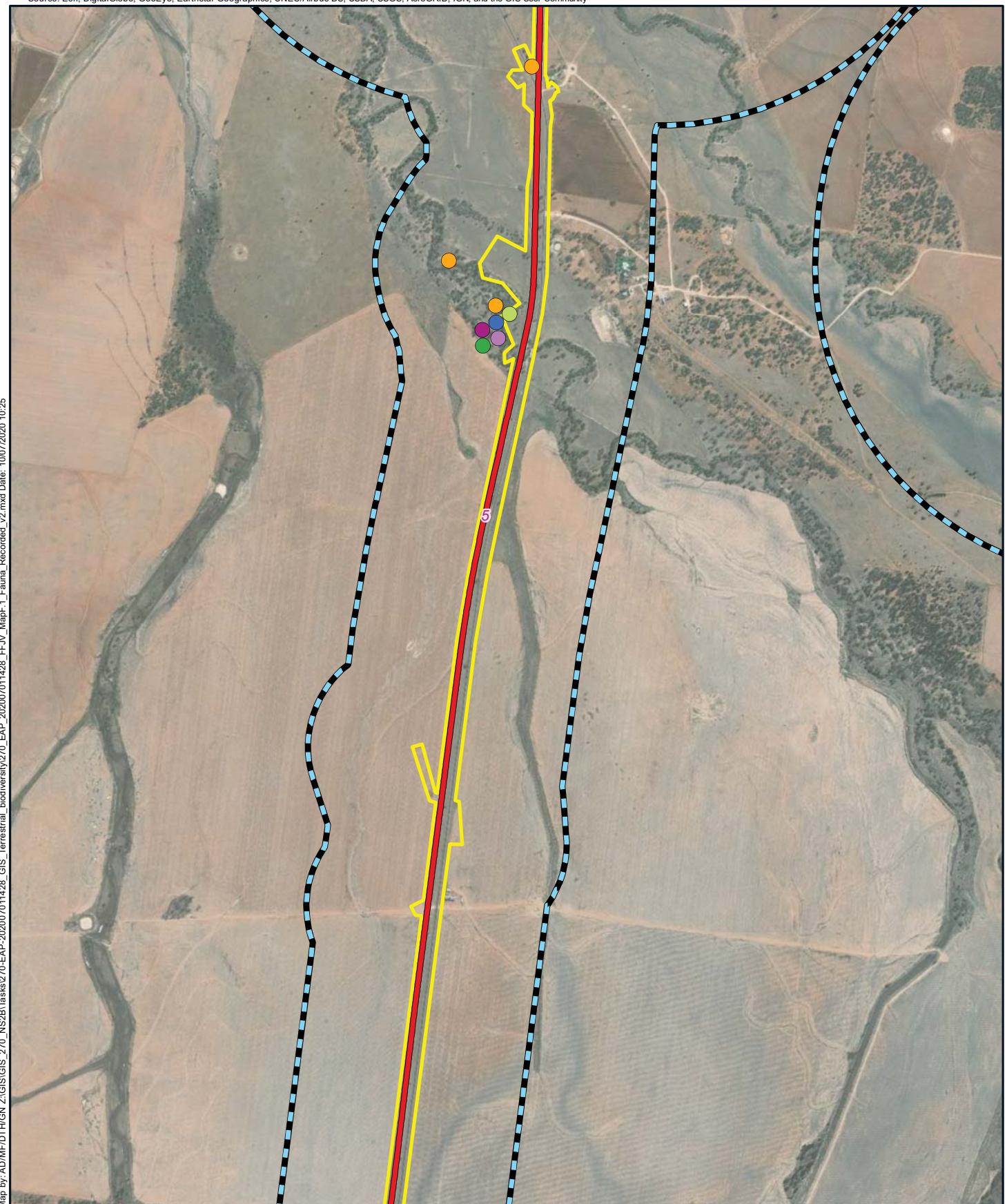
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0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1a:
Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- North Star to NSW/QLD border alignment
- Subject land
- Study area

Conservation significant fauna species

- | | |
|---------------------------|---------------------------------|
| ● Corben's long-eared bat | ● Little pied bat |
| ● Eastern bentwing-bat | ● Northern free-tailed bat |
| ● Grey-crowned babbler | ● Yellow-bellied sheathtail bat |



A4 scale: 1:25,000

0 100 200 300 400 500 m

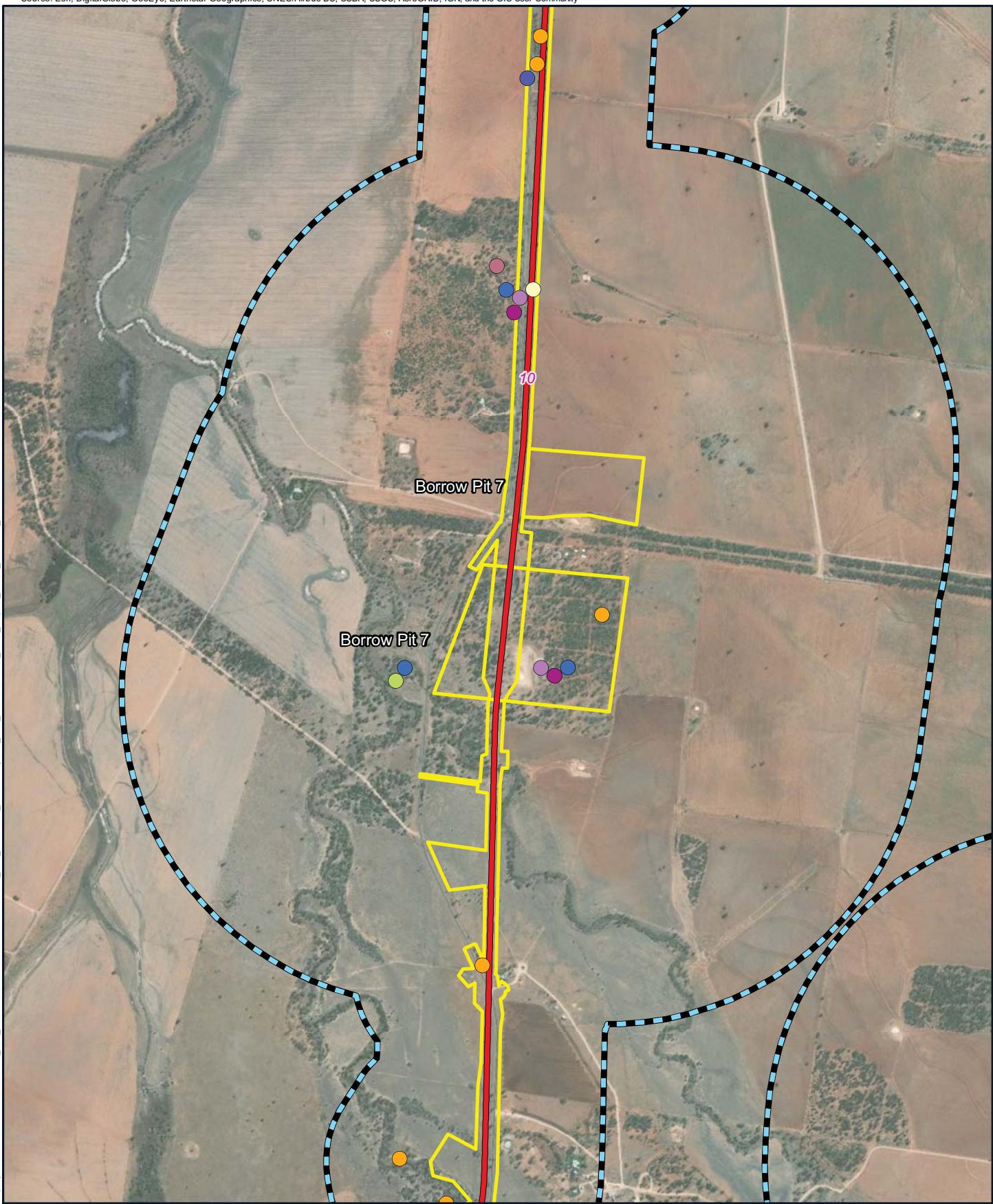


Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border

Map F.1b:

Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- North Star to NSW/QLD border alignment
- Subject land
- Study area

Conservation significant fauna species

- | | |
|---------------------------------|---------------------------------|
| ● Bristle-faced free-tailed bat | ● Little pied bat |
| ● Eastern bentwing-bat | ● Northern free-tailed bat |
| ● Glossy black-cockatoo | ● Red-tailed black-cockatoo |
| ● Grey-crowned babbler | ● Yellow-bellied sheathtail bat |



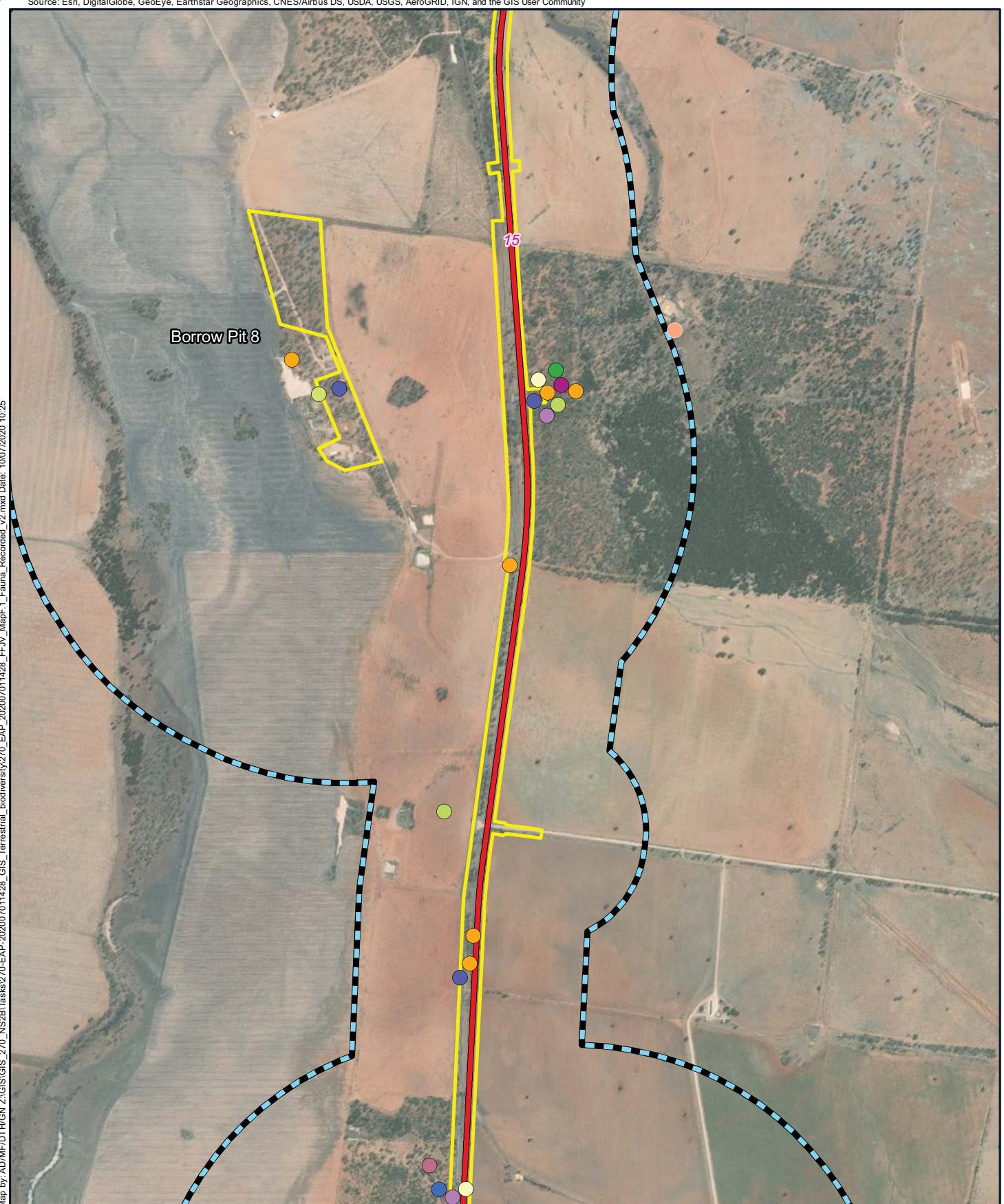
A4 scale: 1:25,000

0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1c:
Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- North Star to NSW/QLD border alignment
- Subject land
- Study area

Conservation significant fauna species

- Australian bittern
- Bristle-faced free-tailed bat
- Corben's long-eared bat
- Eastern bentwing-bat
- Glossy black-cockatoo
- Grey-crowned babbler
- Little pied bat
- Northern free-tailed bat
- Red-tailed black-cockatoo
- Squirrel glider
- Yellow-bellied sheathtail bat



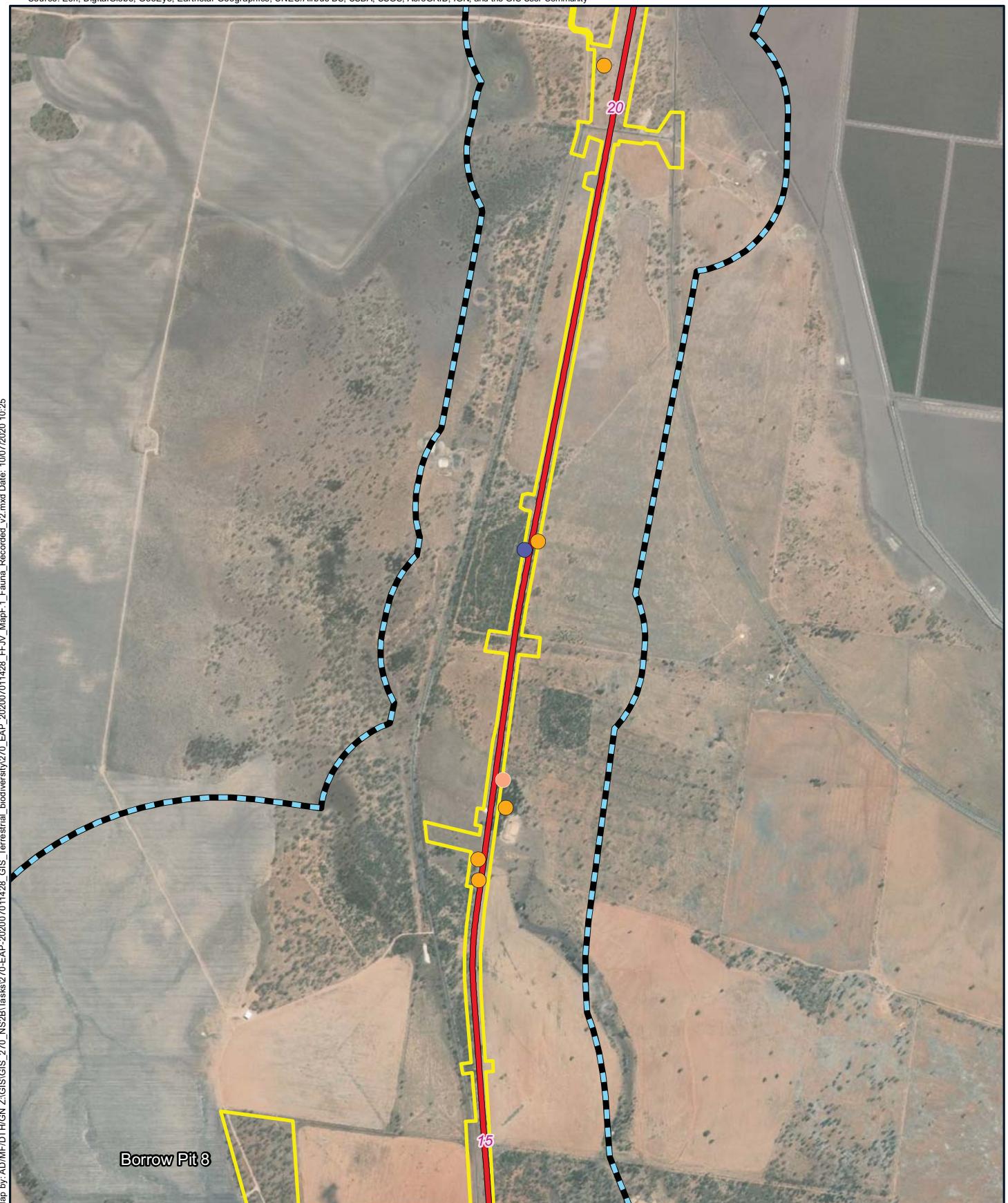
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0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1d:
Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- North Star to NSW/QLD border alignment
- Subject land
- Study area

Conservation significant fauna species

- Grey-crowned babbler
- Squirrel glider
- Red-tailed black-cockatoo

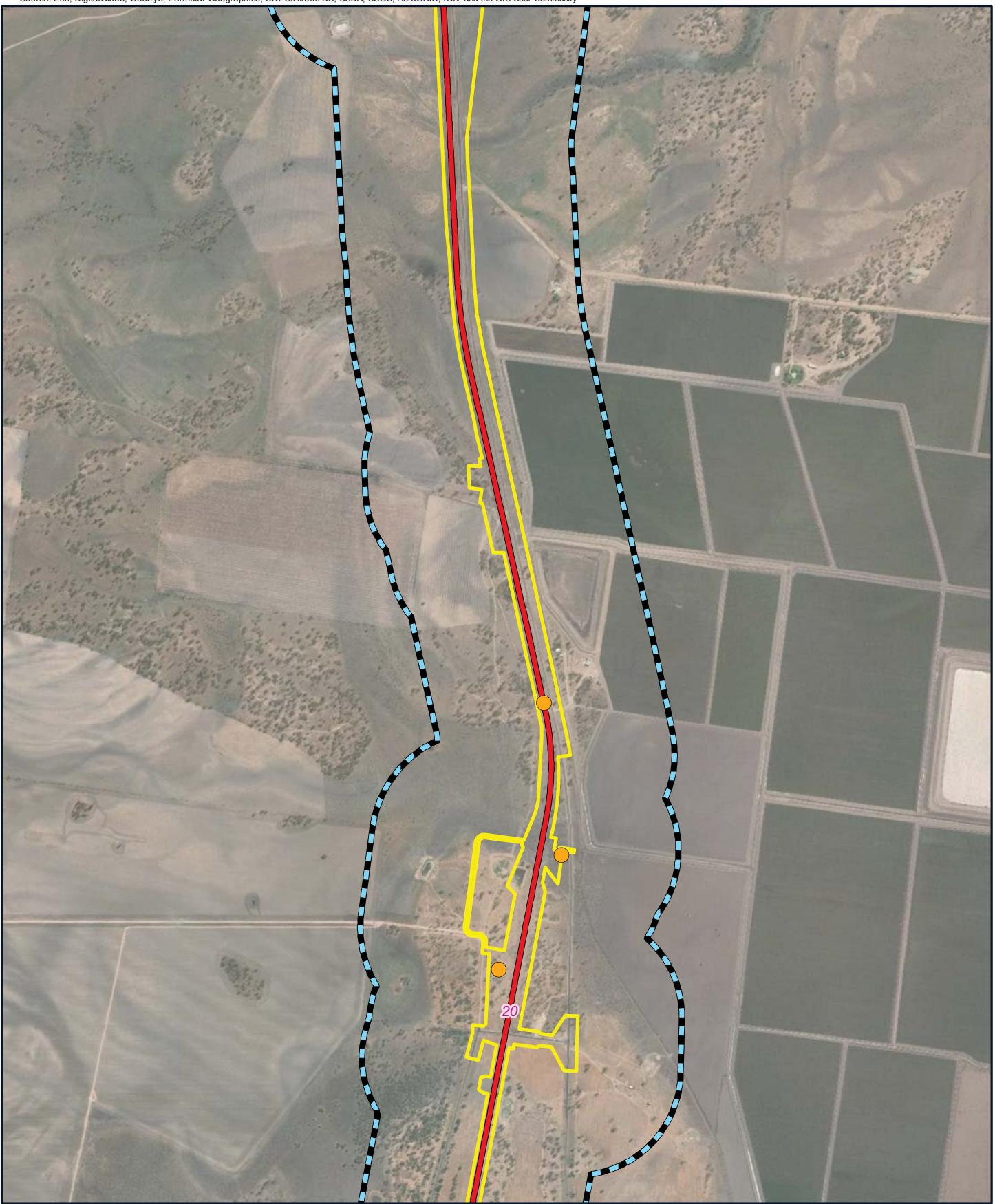


A4 scale: 1:25,000
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Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1e:
Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- North Star to NSW/QLD border alignment
- Subject land
- Study area

Conservation significant fauna species

- Grey-crowned babbler



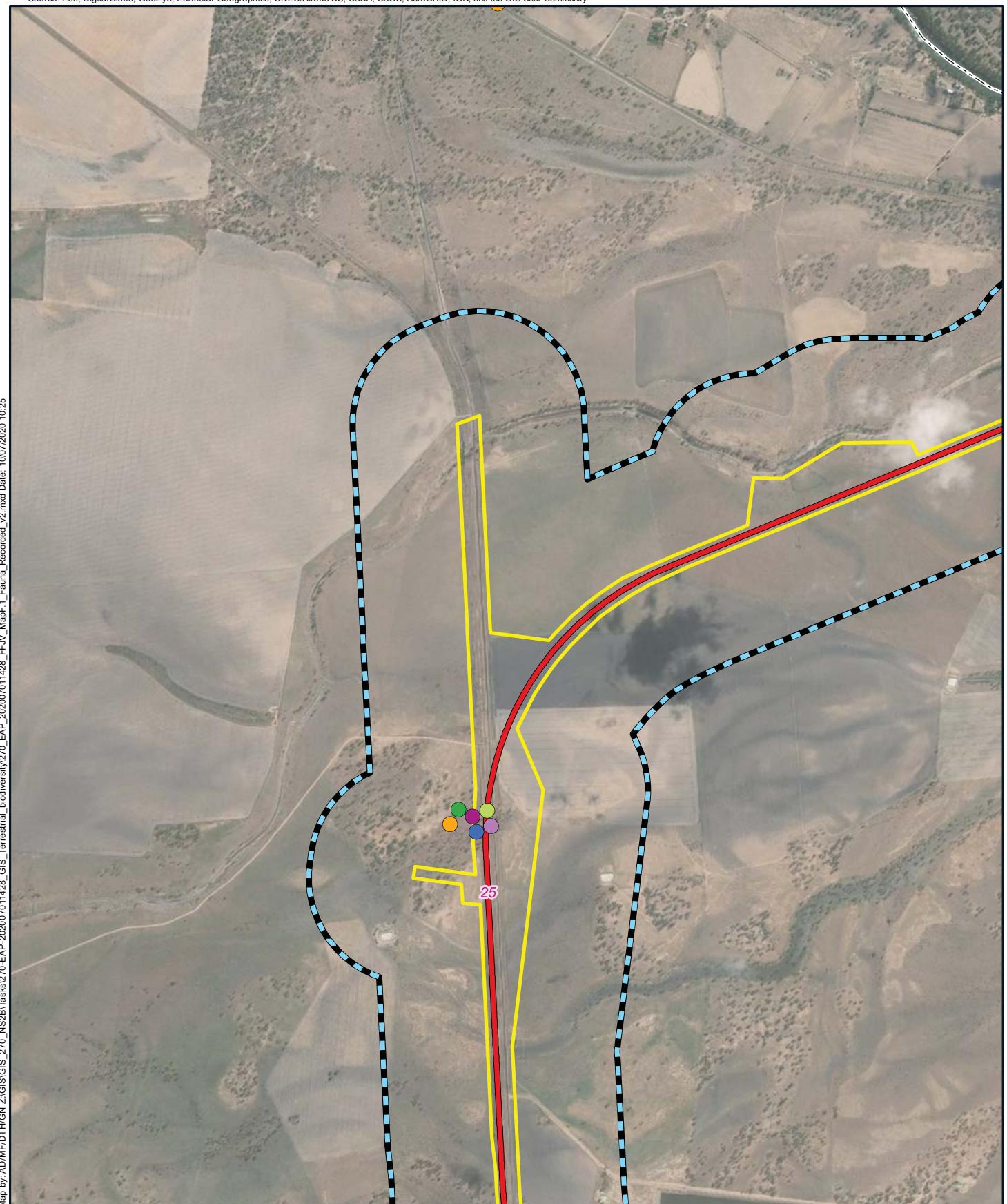
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0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1f:
Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- North Star to NSW/QLD border alignment
- NSW/QLD border
- Yellow Subject land
- Study area

Conservation significant fauna species

- | | |
|---------------------------|---------------------------------|
| ● Corben's long-eared bat | ● Little pied bat |
| ● Eastern bentwing-bat | ● Northern free-tailed bat |
| ● Grey-crowned babbler | ● Yellow-bellied sheathtail bat |



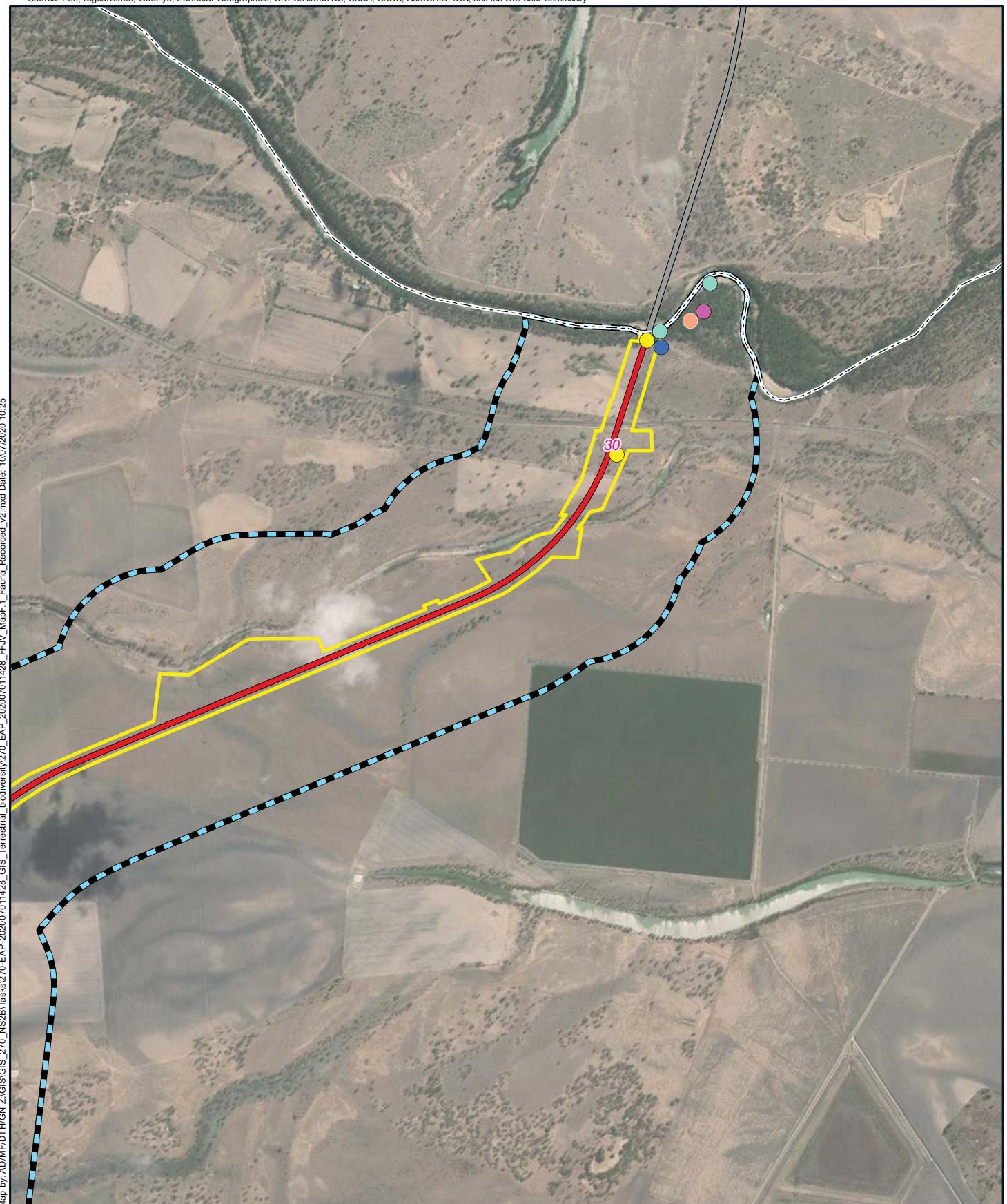
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0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1g:
Recorded observations of threatened fauna species



Legend

- 5 Chainage (km)
- Adjoining alignments
- North Star to NSW/QLD border alignment
- NSW/QLD border
- Subject land
- Study area

Conservation significant fauna species

- Eastern bentwing-bat
- Squirrel glider
- Grey-headed flying-fox
- White-bellied sea-eagle
- Koala

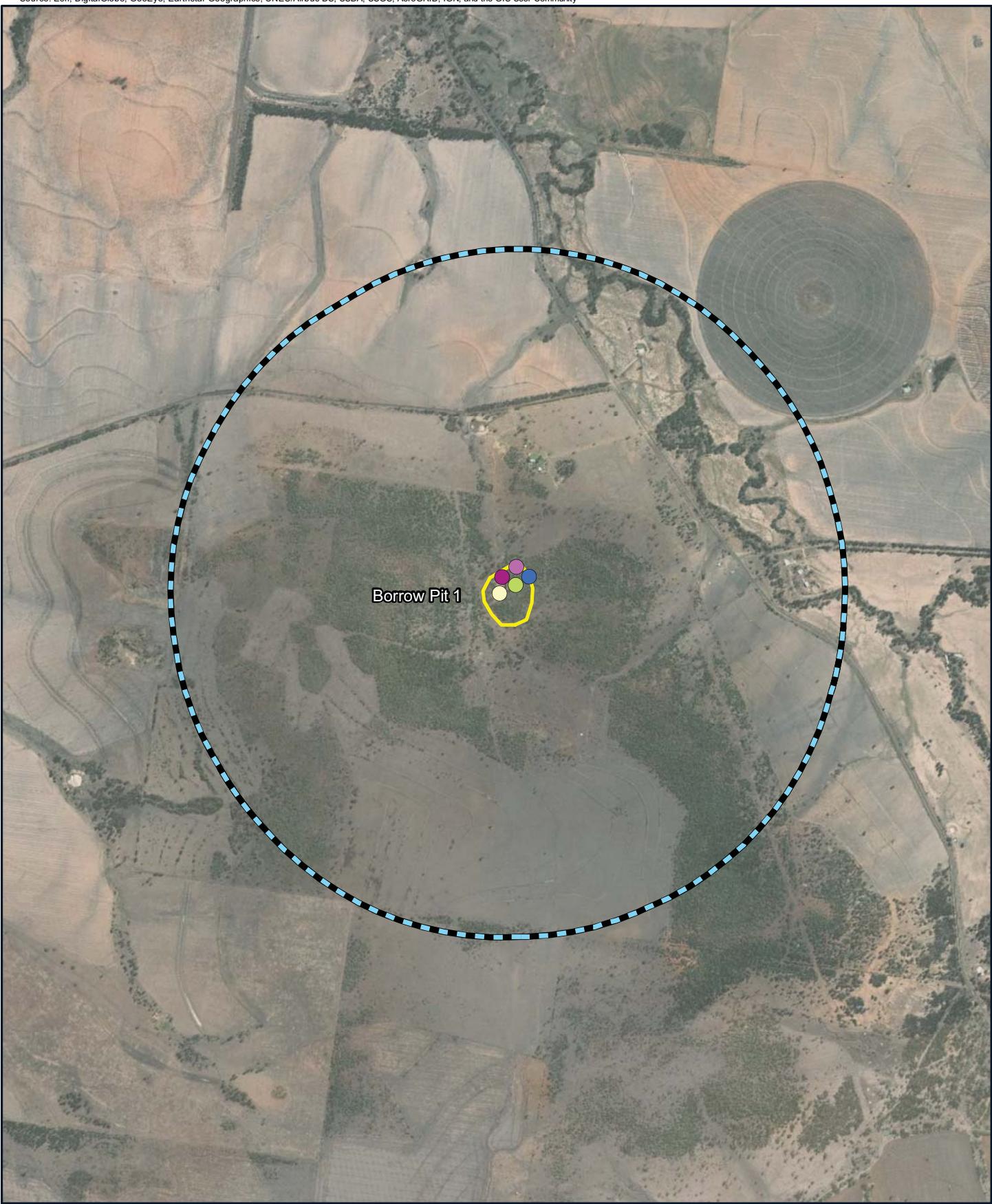


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0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1h:
Recorded observations of threatened fauna species



Legend

5 Chainage (km)

Subject land

Study area

Conservation significant fauna species

- | | |
|---------------------------------|---------------------------------|
| ● Bristle-faced free-tailed bat | ● Scarlet robin |
| ● Eastern bentwing-bat | ● Yellow-bellied sheathtail bat |
| ● Little pied bat | |



A4 scale: 1:25,000

0 100 200 300 400 500 m

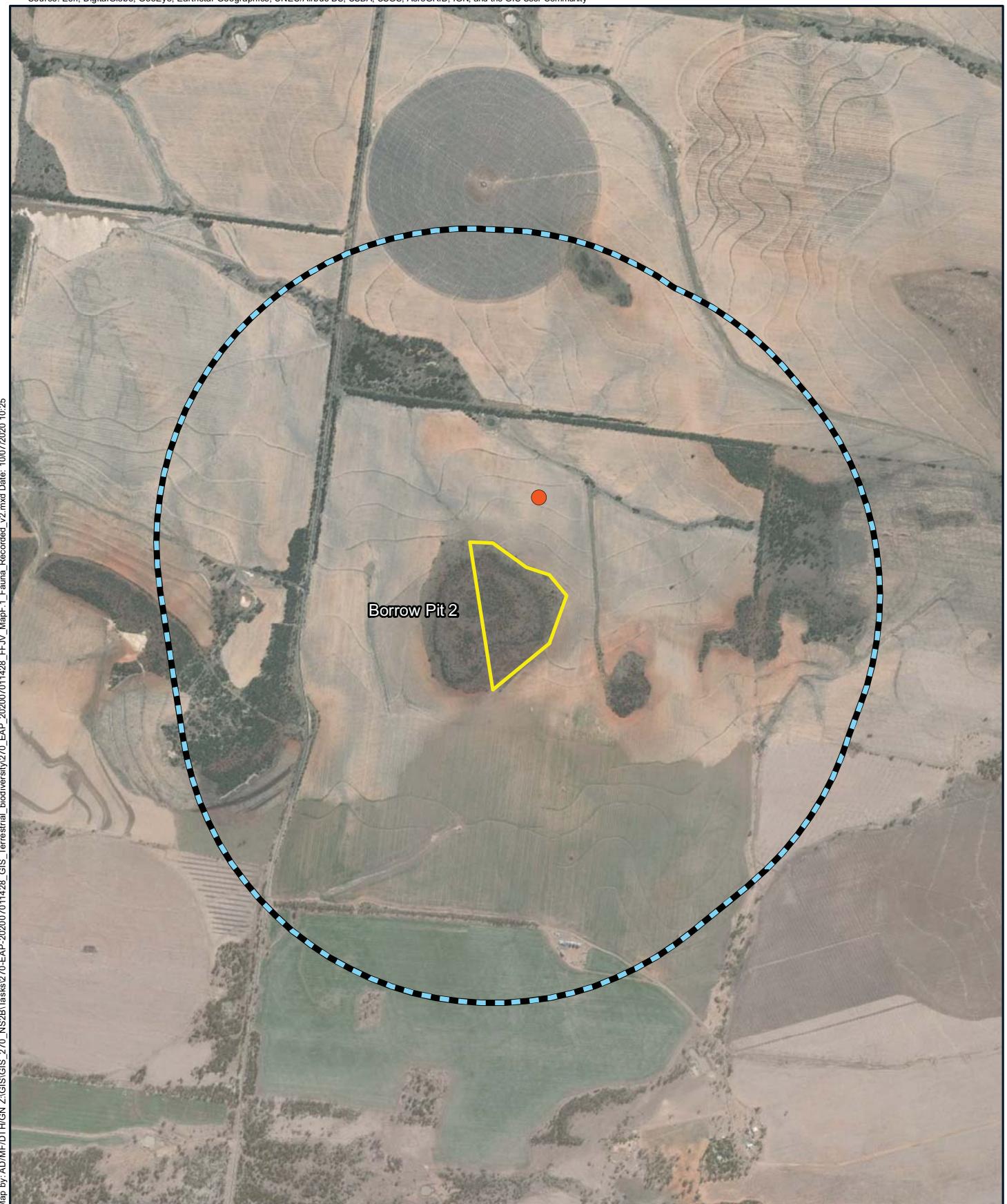


Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border

Map F.1i:

Recorded observations of threatened fauna species



Legend

5 Chainage (km)

Yellow Subject land

Study area

Conservation significant fauna species

Red Spotted harrier



A4 scale: 1:25,000

0 100 200 300 400 500 m

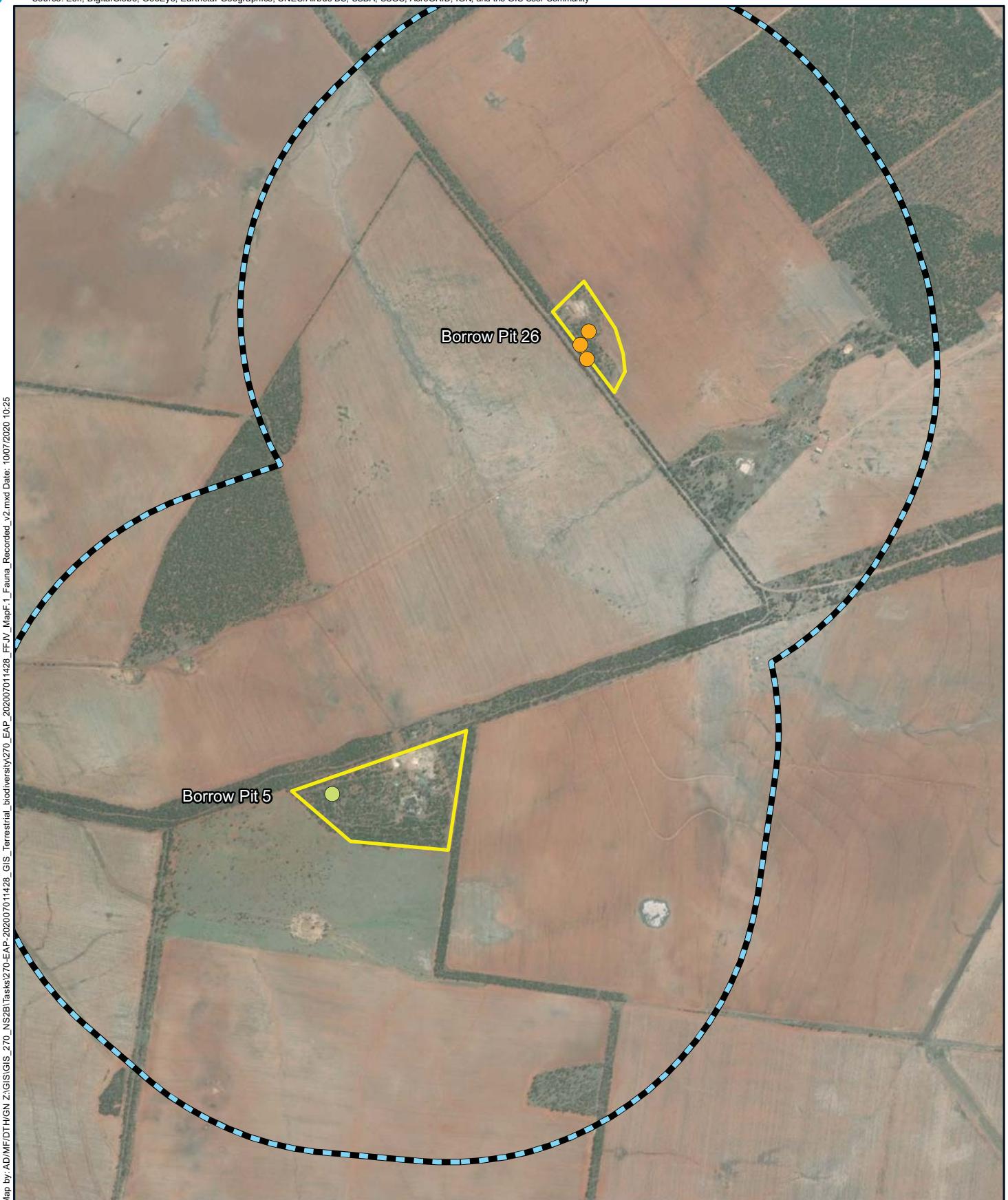


Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border

Map F.1j:

Recorded observations of threatened fauna species



Legend

5 Chainage (km)

Subject land

Study area

Conservation significant fauna species

Grey-crowned babbler Painted honeyeater



A4 scale: 1:25,000

0 100 200 300 400 500 m

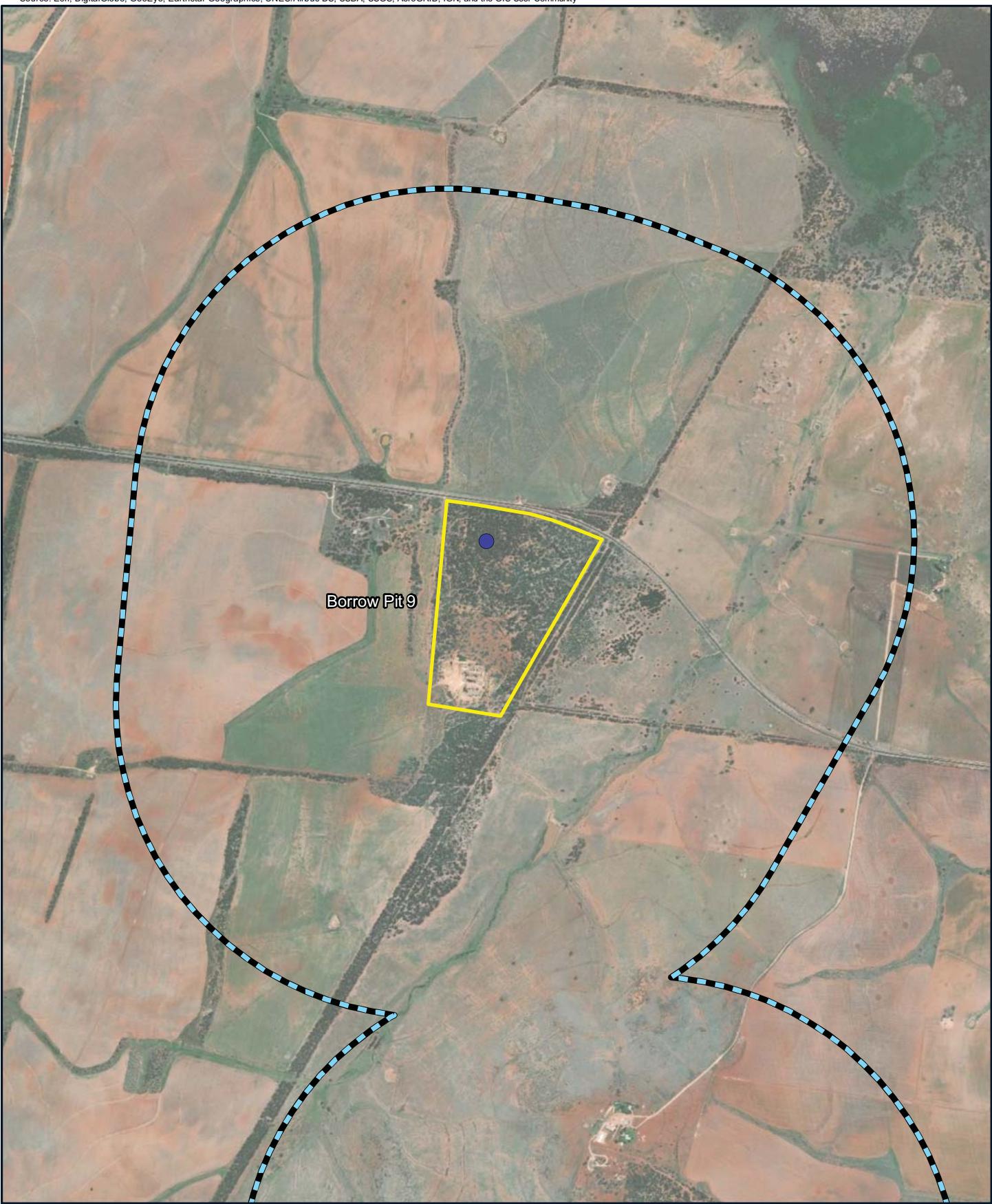


Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border

Map F.1I:

Recorded observations of threatened fauna species



Legend

5 Chainage (km)

Yellow Subject land

Study area

Conservation significant fauna species

● Varied sittella



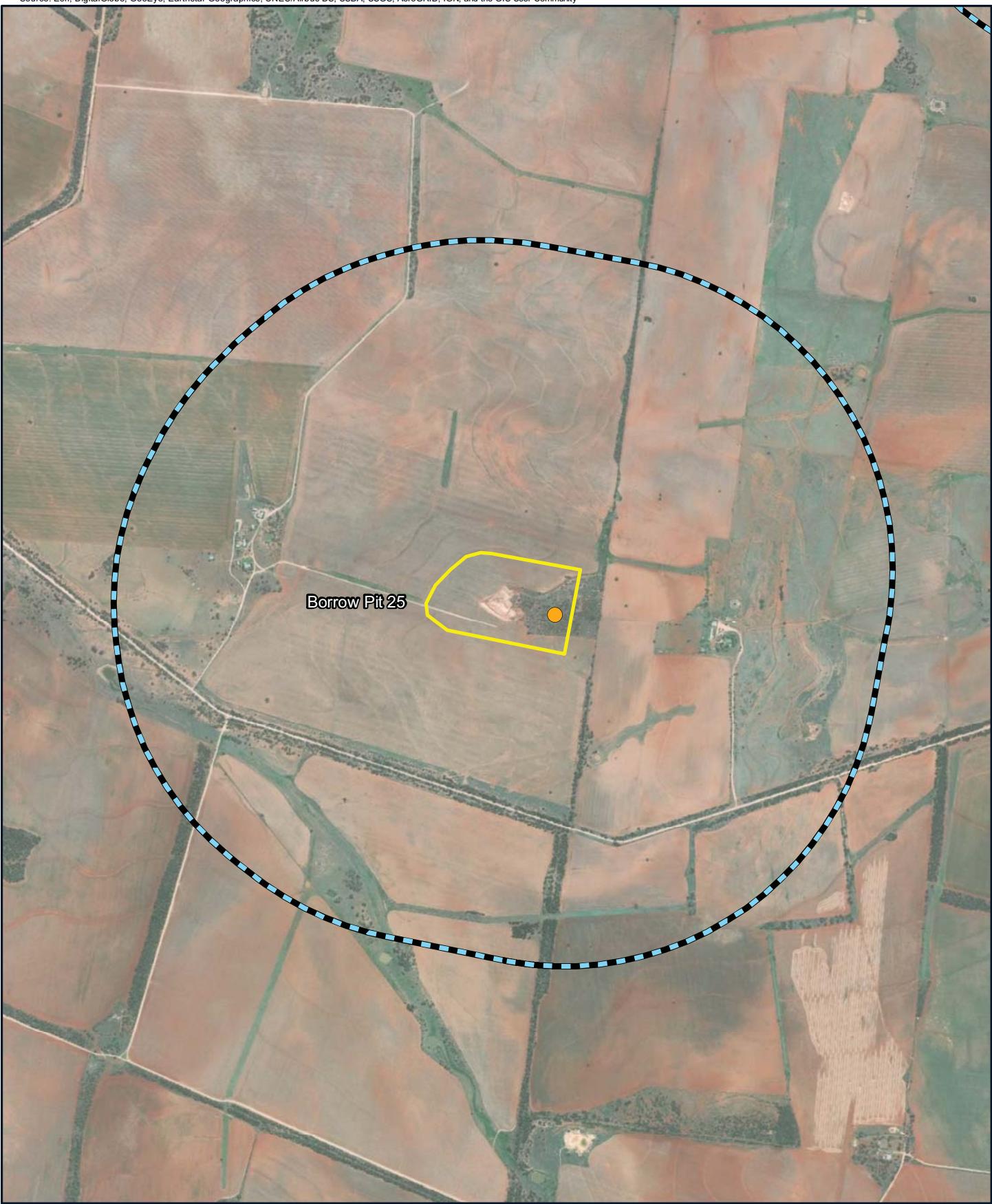
A4 scale: 1:25,000

0 100 200 300 400 500 m



Integrating Community, Environment and Engineering
Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border
Map F.1m:
Recorded observations of threatened fauna species



Legend

5 Chainage (km)

Yellow Subject land

Study area

Conservation significant fauna species

Grey-crowned babbler



A4 scale: 1:25,000

0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: GDA 1994 MGA Zone 56

North Star to QLD/NSW Border

Map F.1n:

Recorded observations of threatened fauna species



Legend

- Locality
- Existing rail (non-operational)
- Adjoining alignments
- Major roads
- Minor roads
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Potential serious and irreversible impact species
- Subject land

A4 scale: 1:20,000

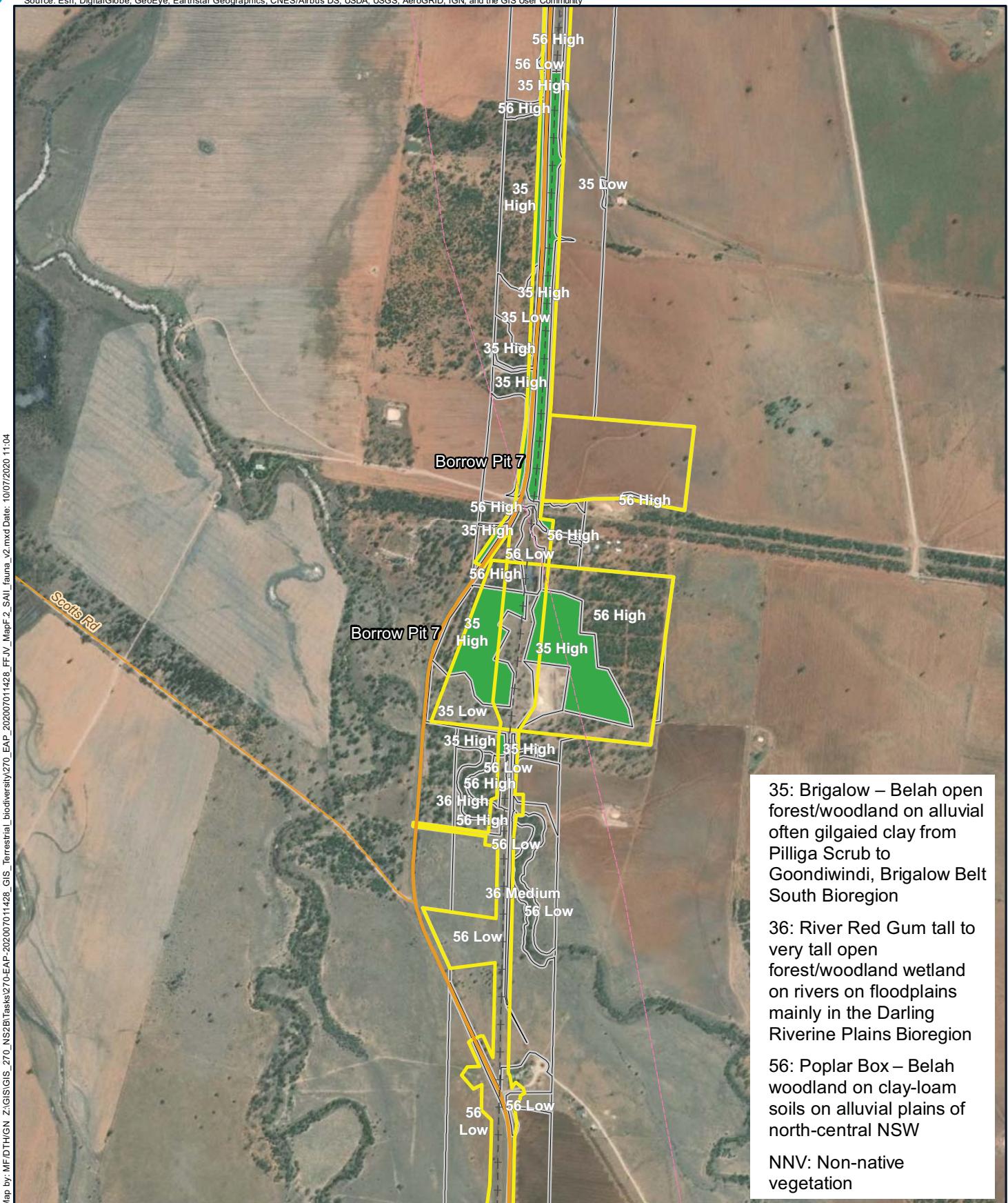
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Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.2a: Potential SAI species -
 Pale imperial hairstreak (*Jalmenus eubulus*)



Legend

- Existing rail (non-operational)
- Major roads
- Minor roads
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Potential serious and irreversible impact species
- Subject land

A4 scale: 1:20,000

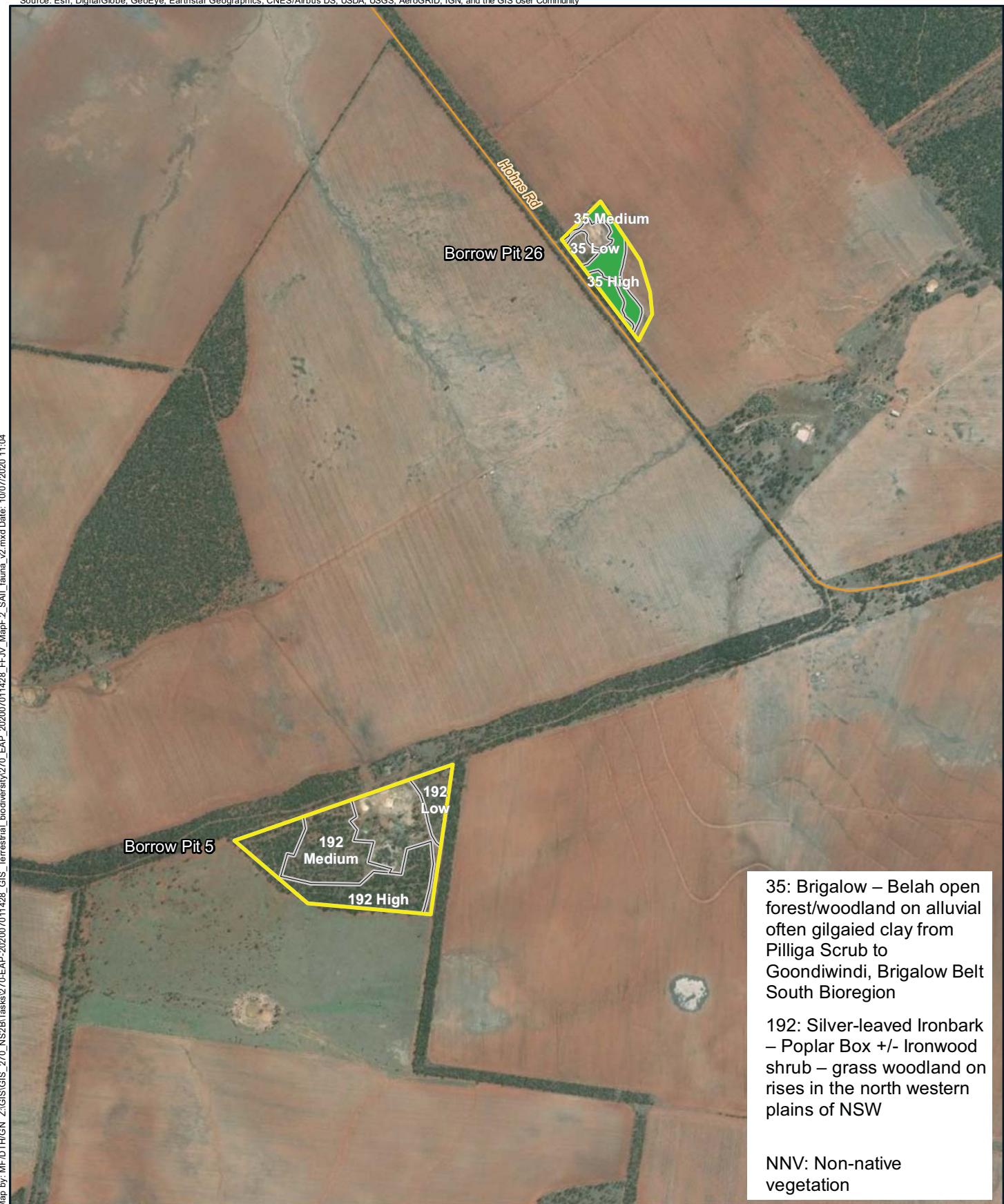
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA55

North Star to QLD/NSW Border

Map F.2b: Potential SAll species -
Pale imperial hairstreak (*Jalmenus eubulus*)

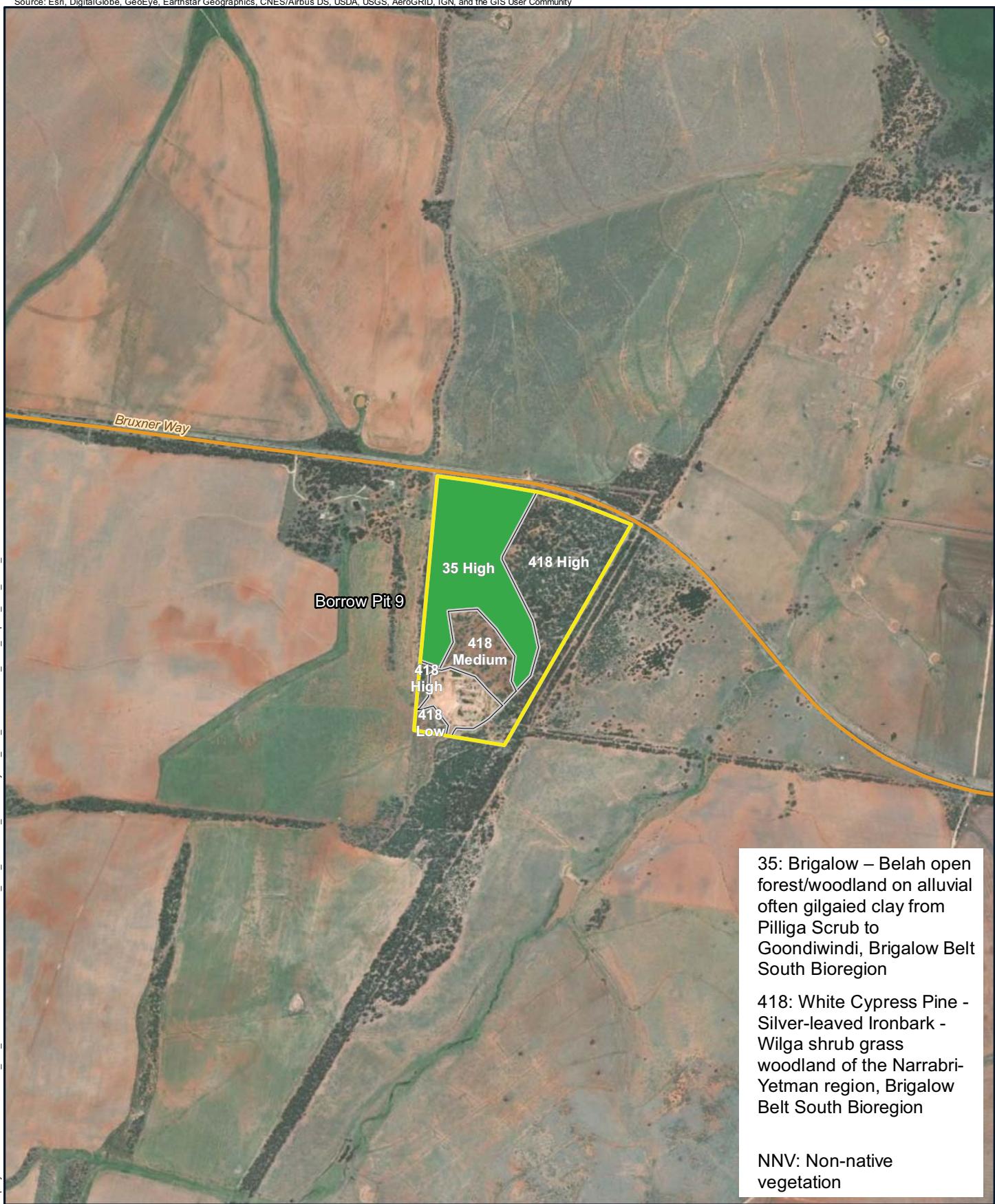


Legend

- Minor roads
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Potential serious and irreversible impact species
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m

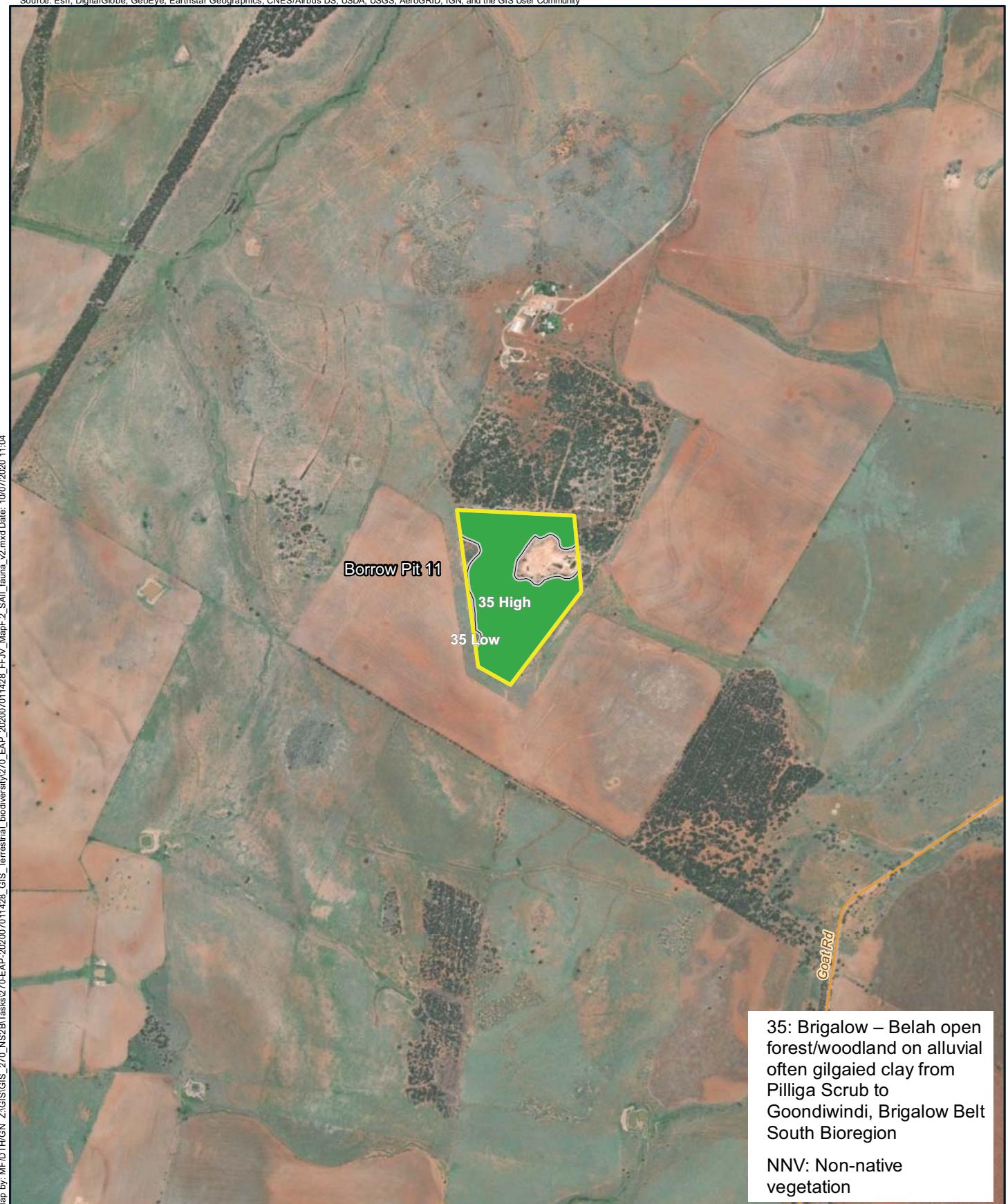


Legend

- Major roads
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Potential serious and irreversible impact species
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m

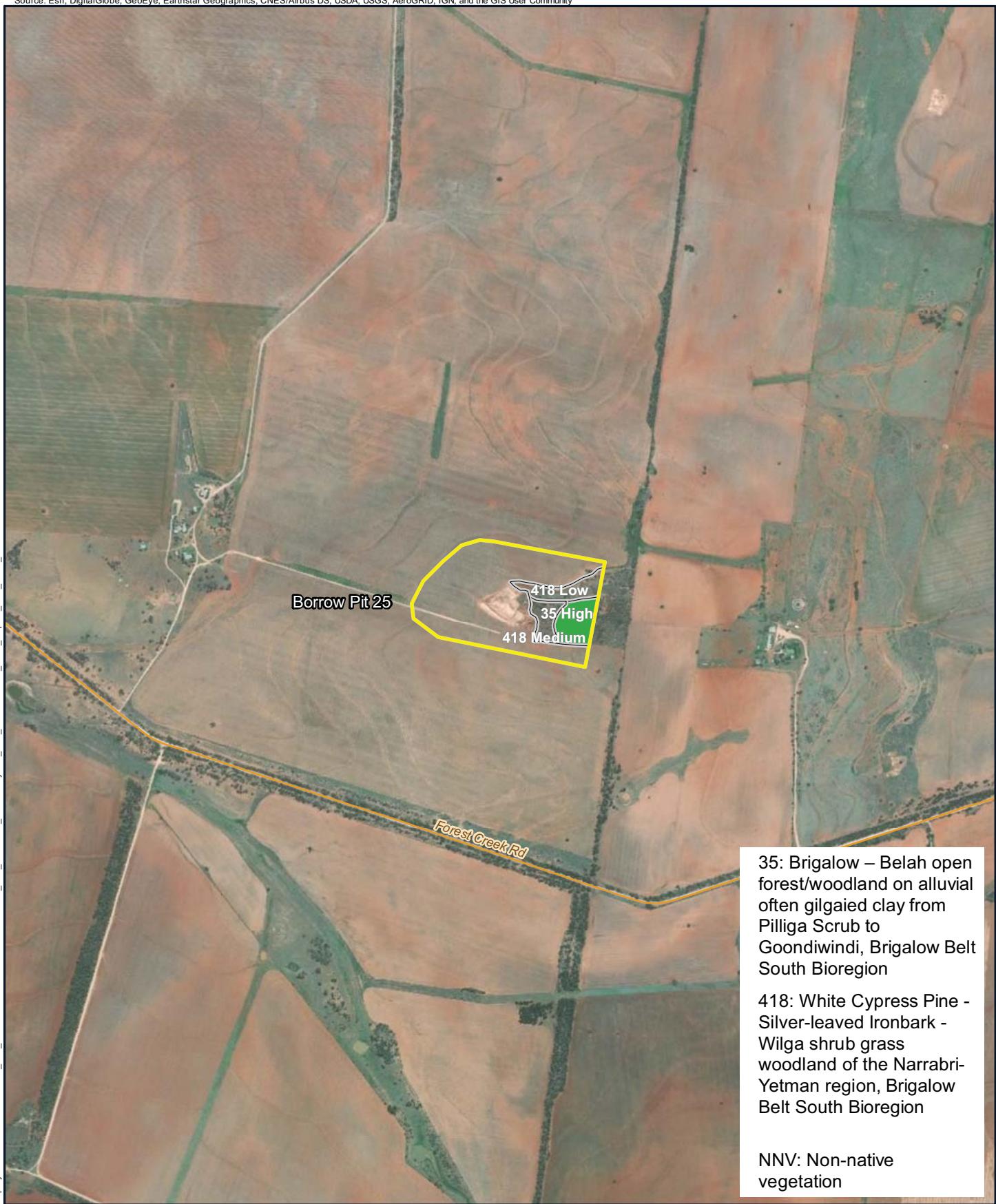


Legend

- Minor roads
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Potential serious and irreversible impact species
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m

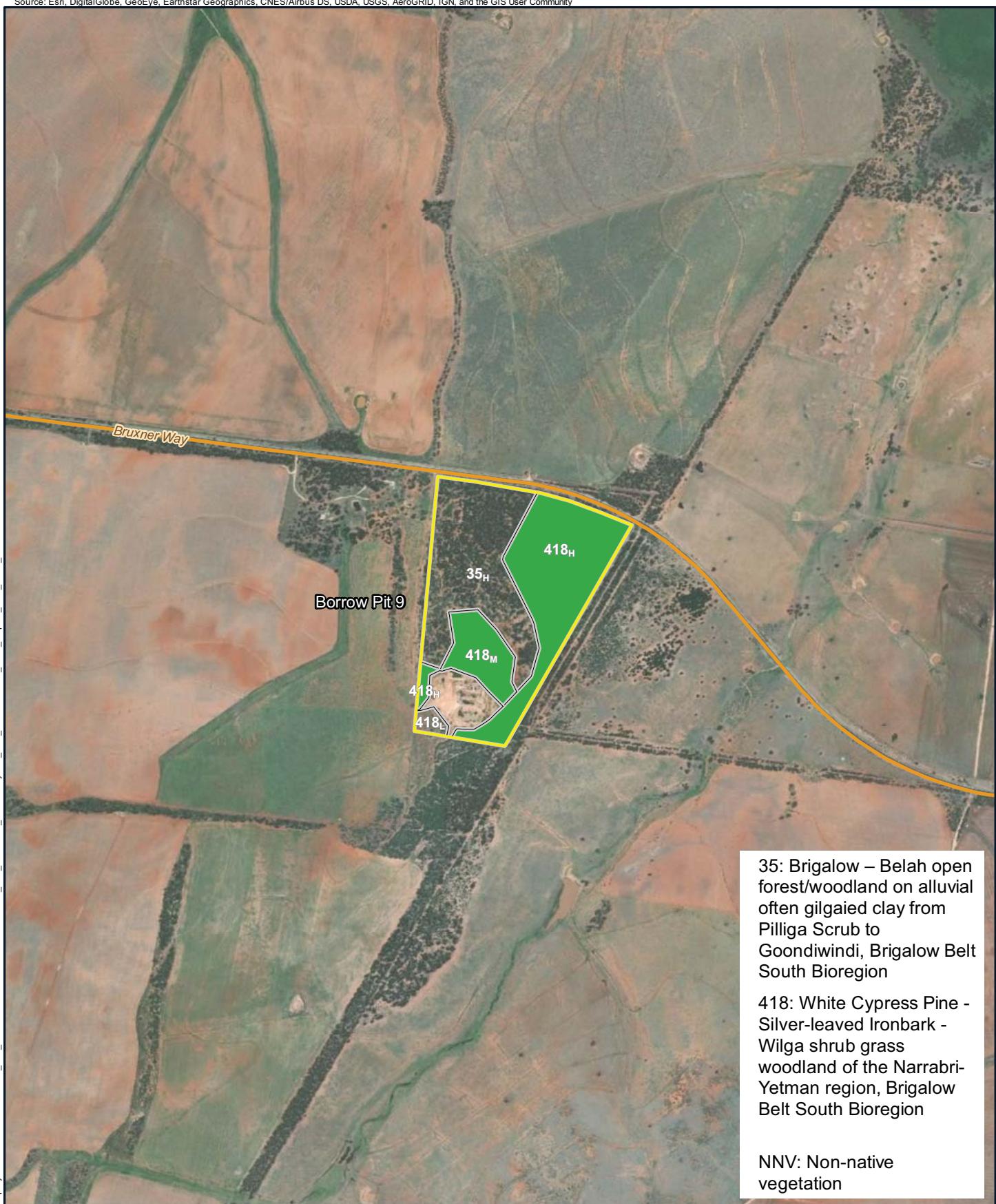


Legend

- Minor roads
- Fieldwork PCT (to fieldwork extent)
- (dashed line) IBRA 7 sub-region boundary
- Potential serious and irreversible impact species
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m



Legend

- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- Localities
- + Existing rail (non-operational)
- Adjoining alignments
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



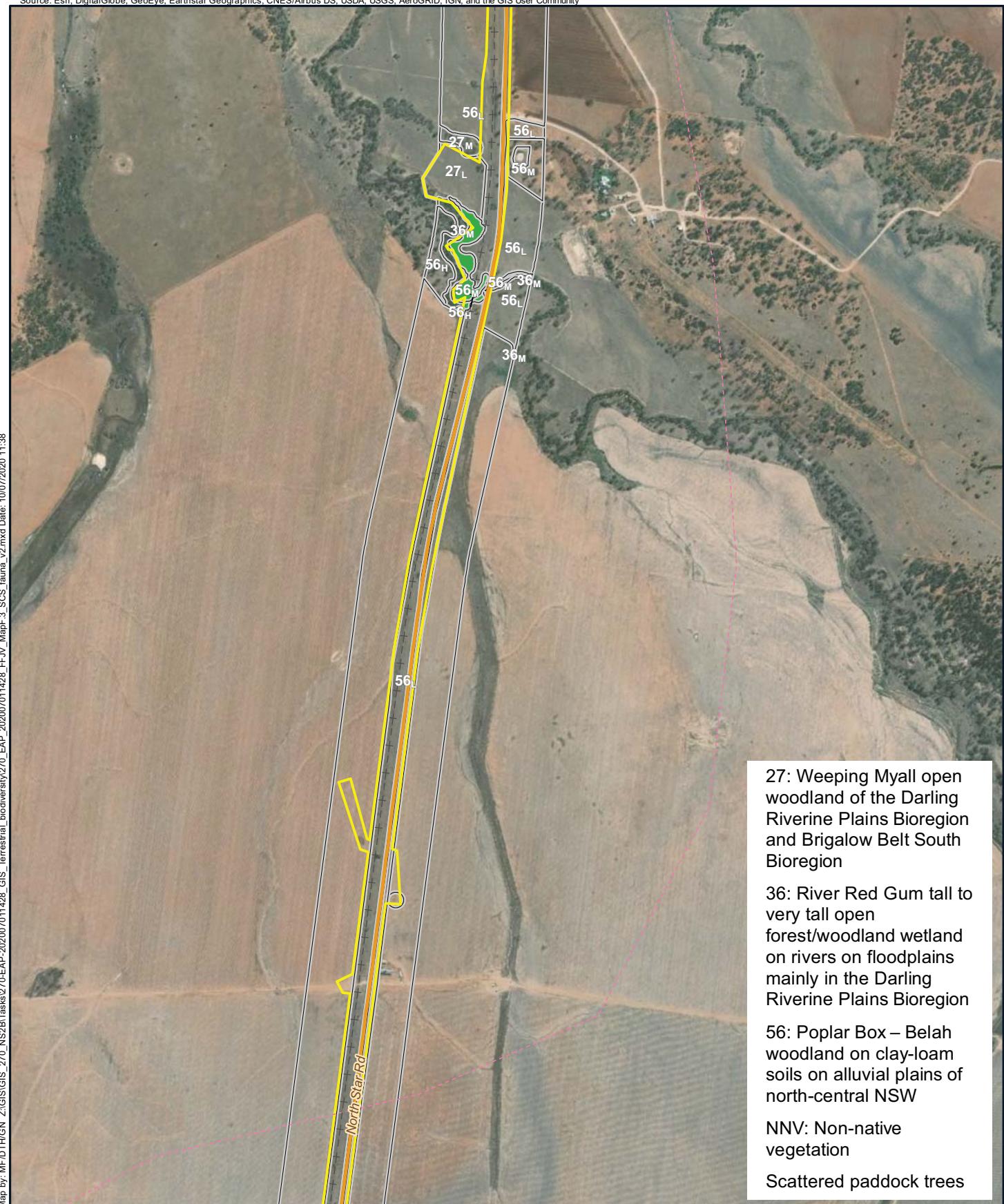
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3c: Glossy black-cockatoo
 $(\text{Calyptrorhynchus lathami})$



Legend

- Existing rail (operational)
- - - Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- - - IBRA 7 sub-region boundary
- Subject land



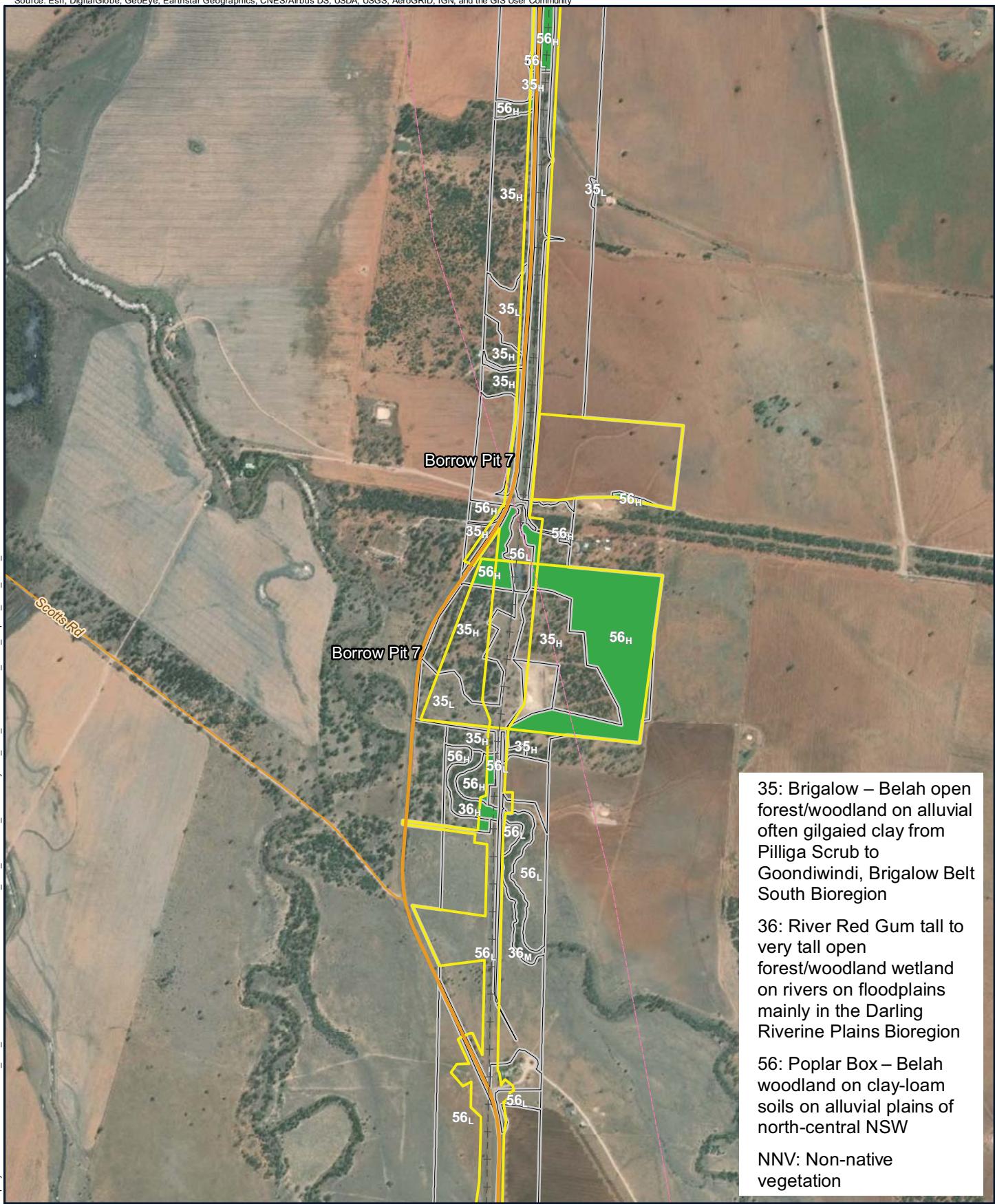
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3d: Glossy black-cockatoo
(Calyptorhynchus lathami)

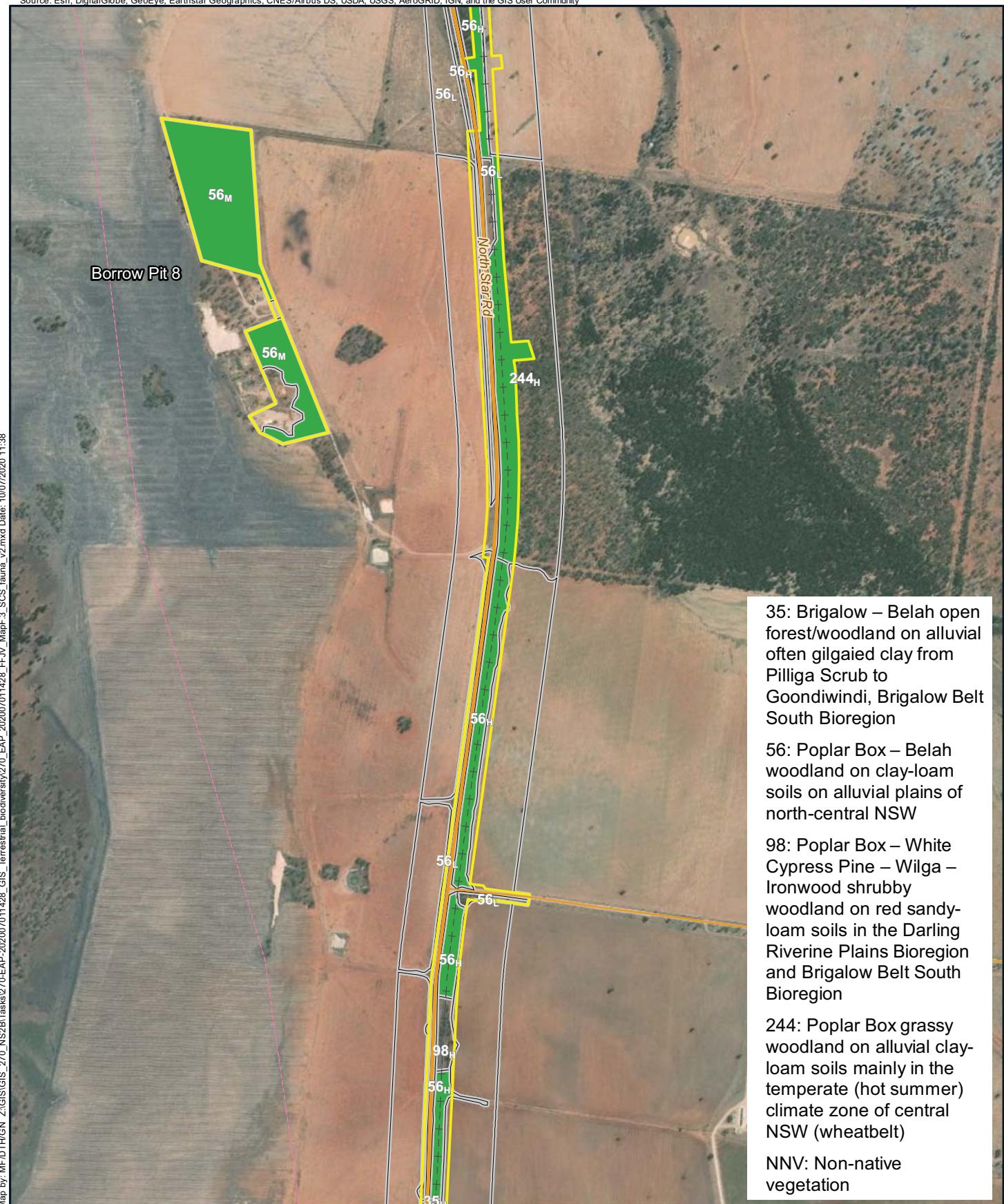


Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
 0 100 200 300 400 500 m

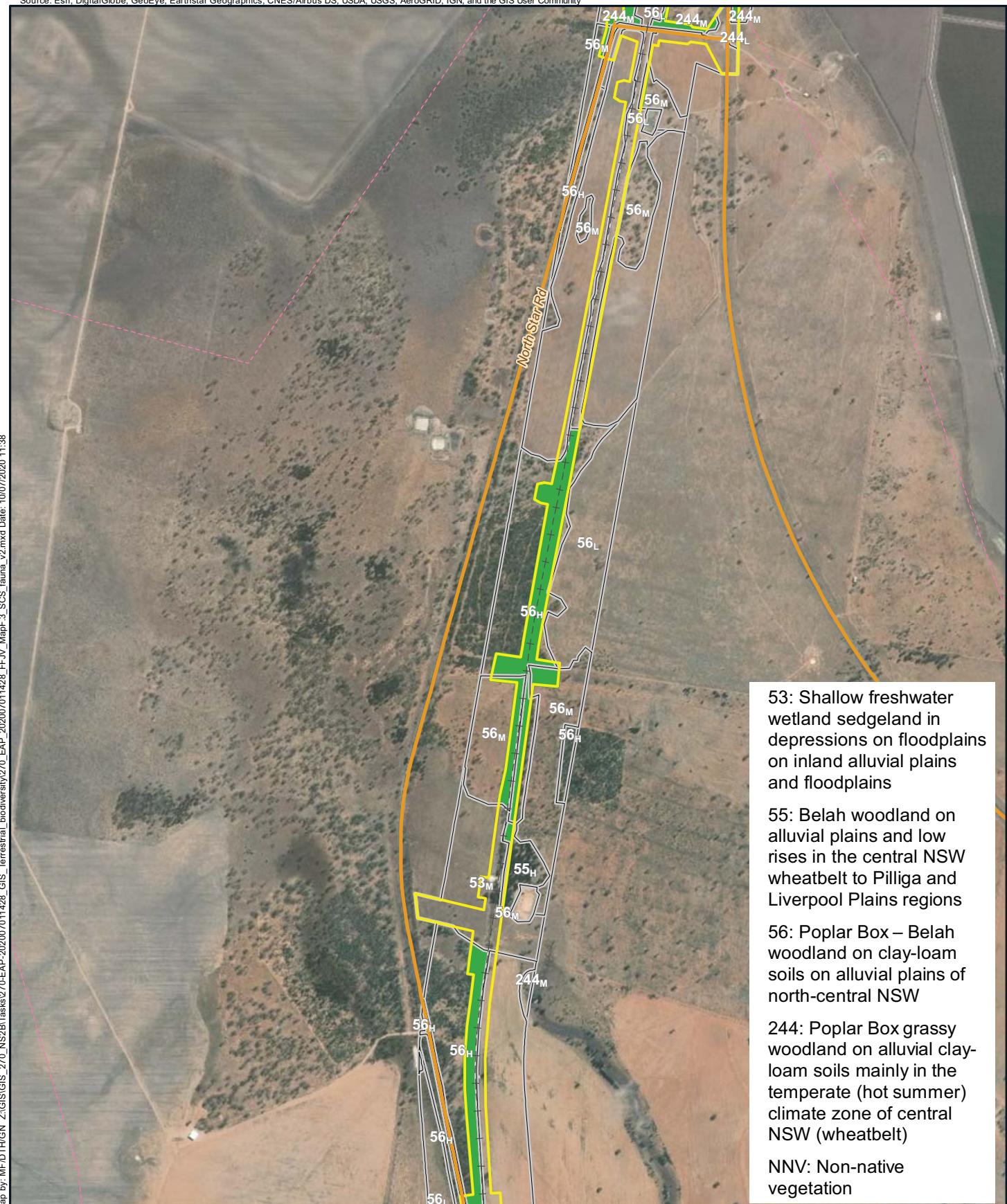


Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

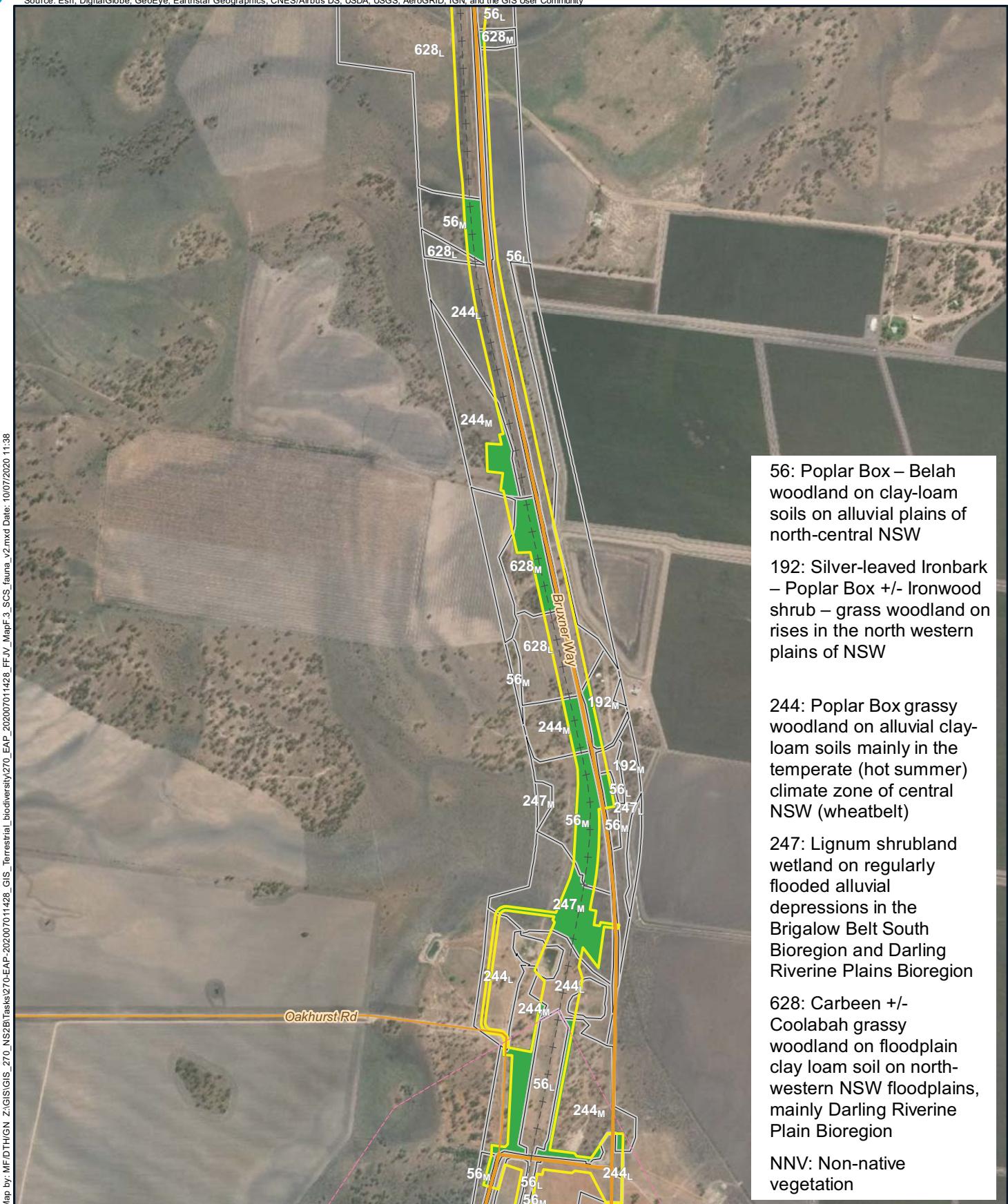
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3g: Glossy black-cockatoo (*Calyptorhynchus lathami*)



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



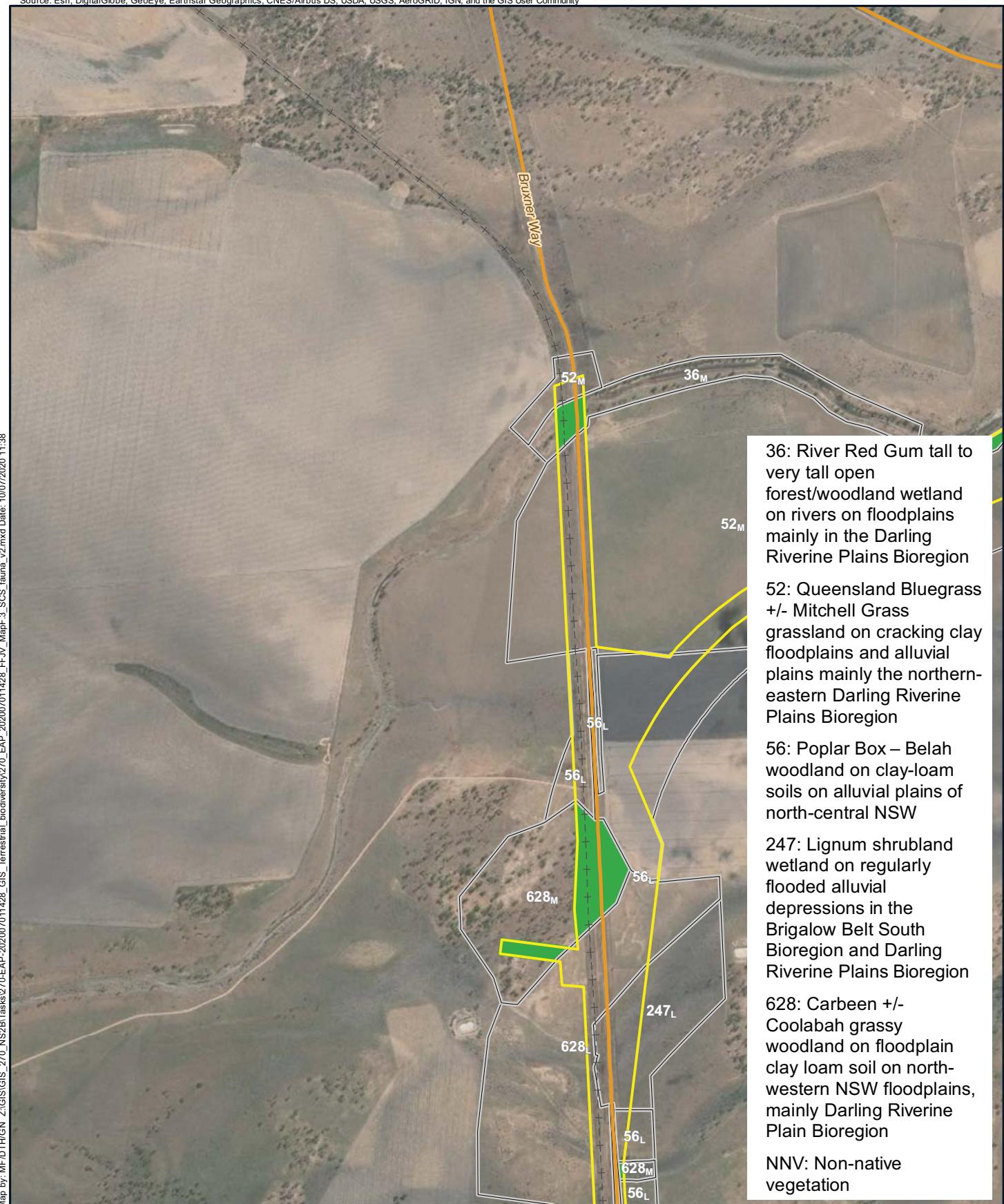
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA55

North Star to QLD/NSW Border

Map F.3h: Glossy black-cockatoo (*Calyptorhynchus lathami*)



Legend

- + - Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



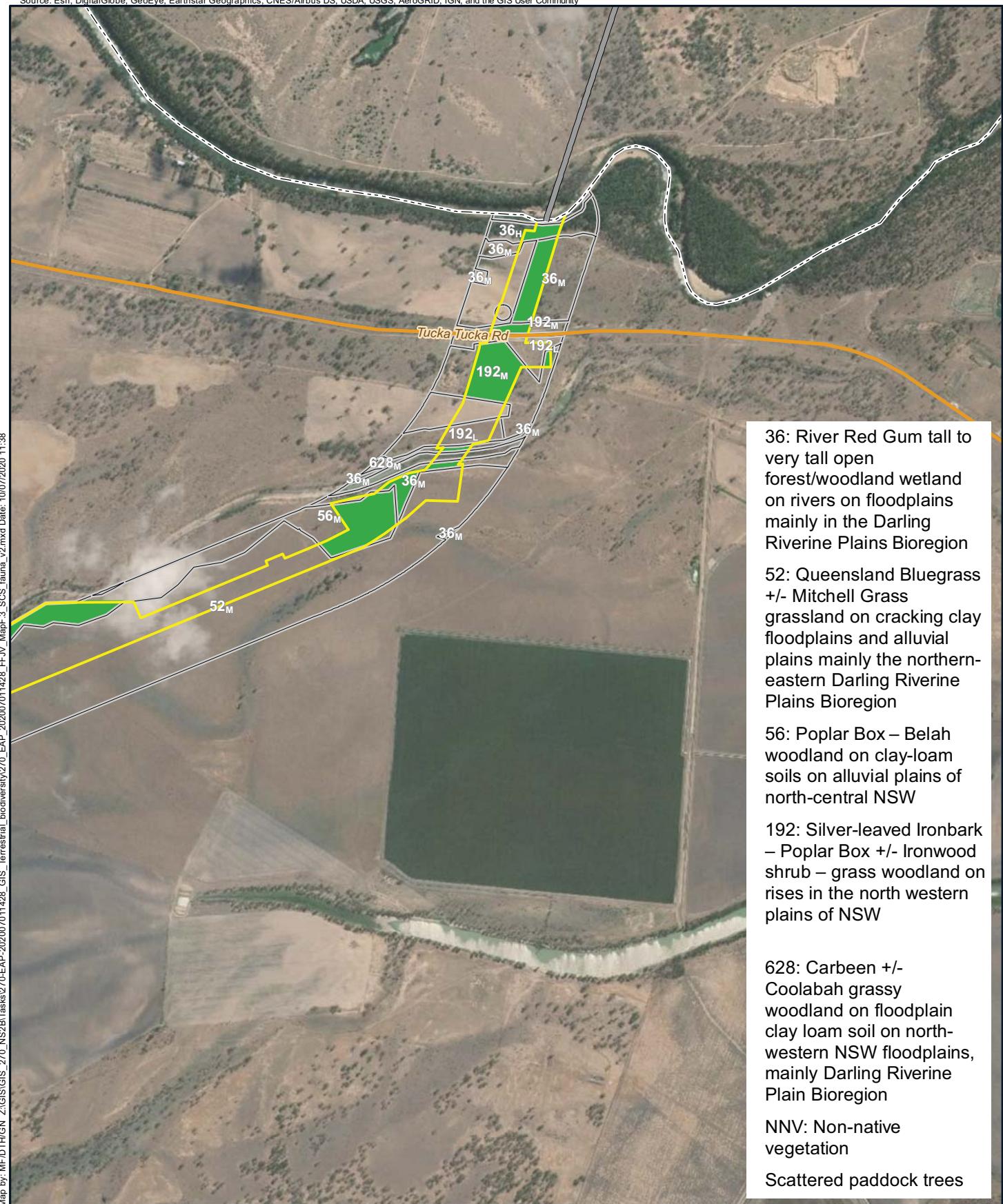
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3i: Glossy black-cockatoo (*Calyptorhynchus lathami*)



Legend

- (NSW/QLD border to Gowrie alignment)
- Major roads
- - - NSW/QLD border
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



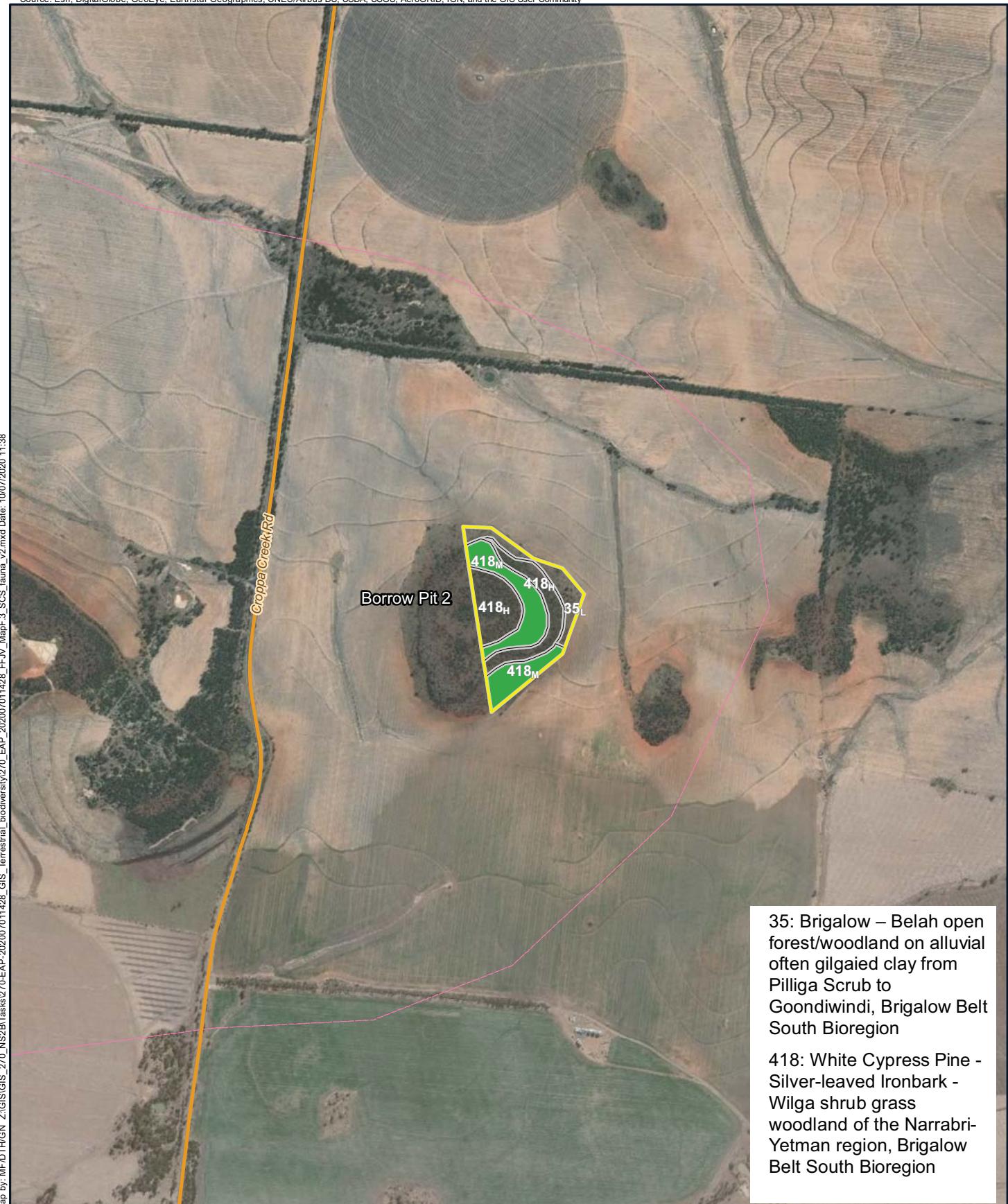
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA55

North Star to QLD/NSW Border

Map F.3j: Glossy black-cockatoo (*Calyptorhynchus lathami*)



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



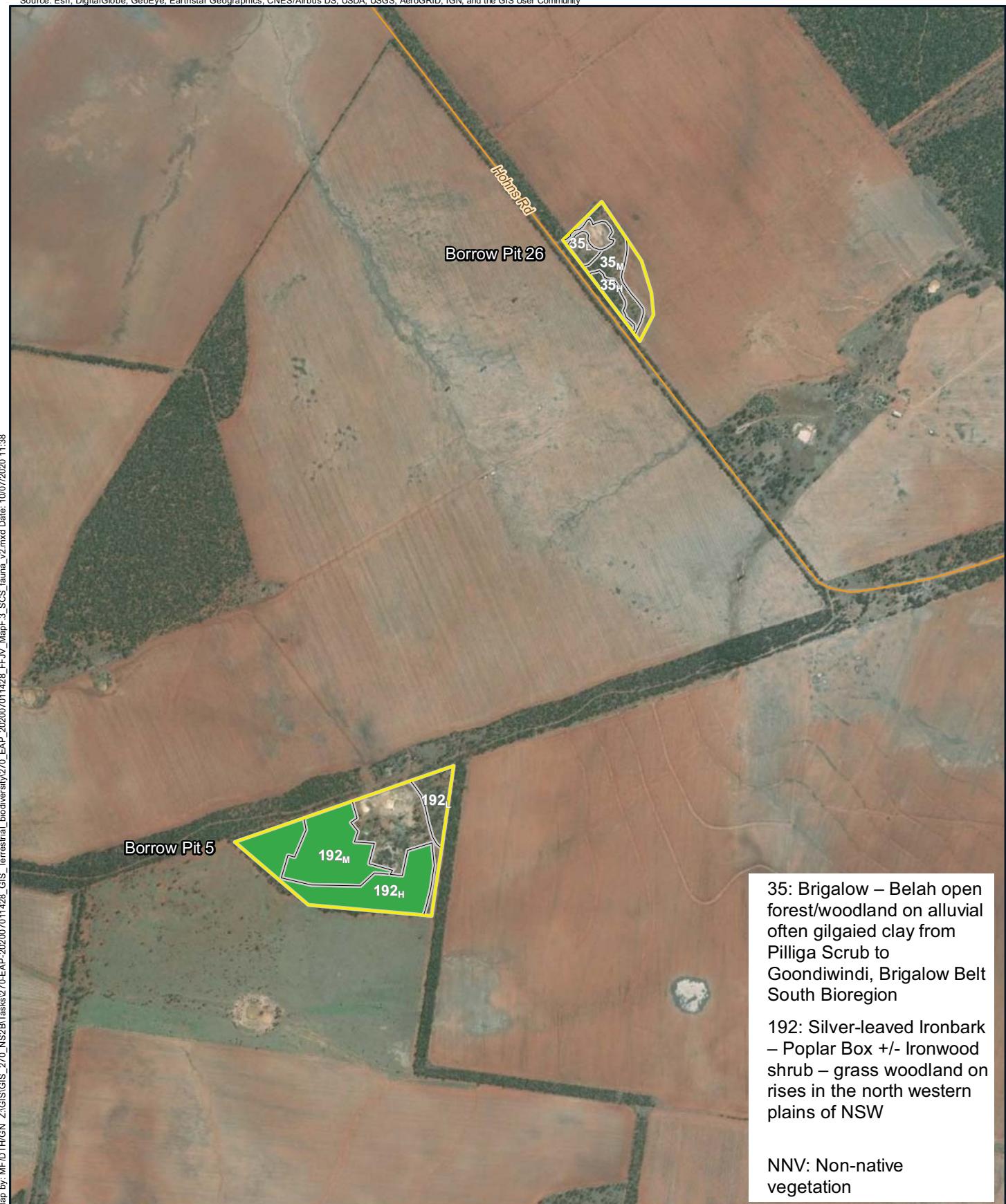
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3k: Glossy black-cockatoo
(*Calyptorhynchus lathami*)



Legend

- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



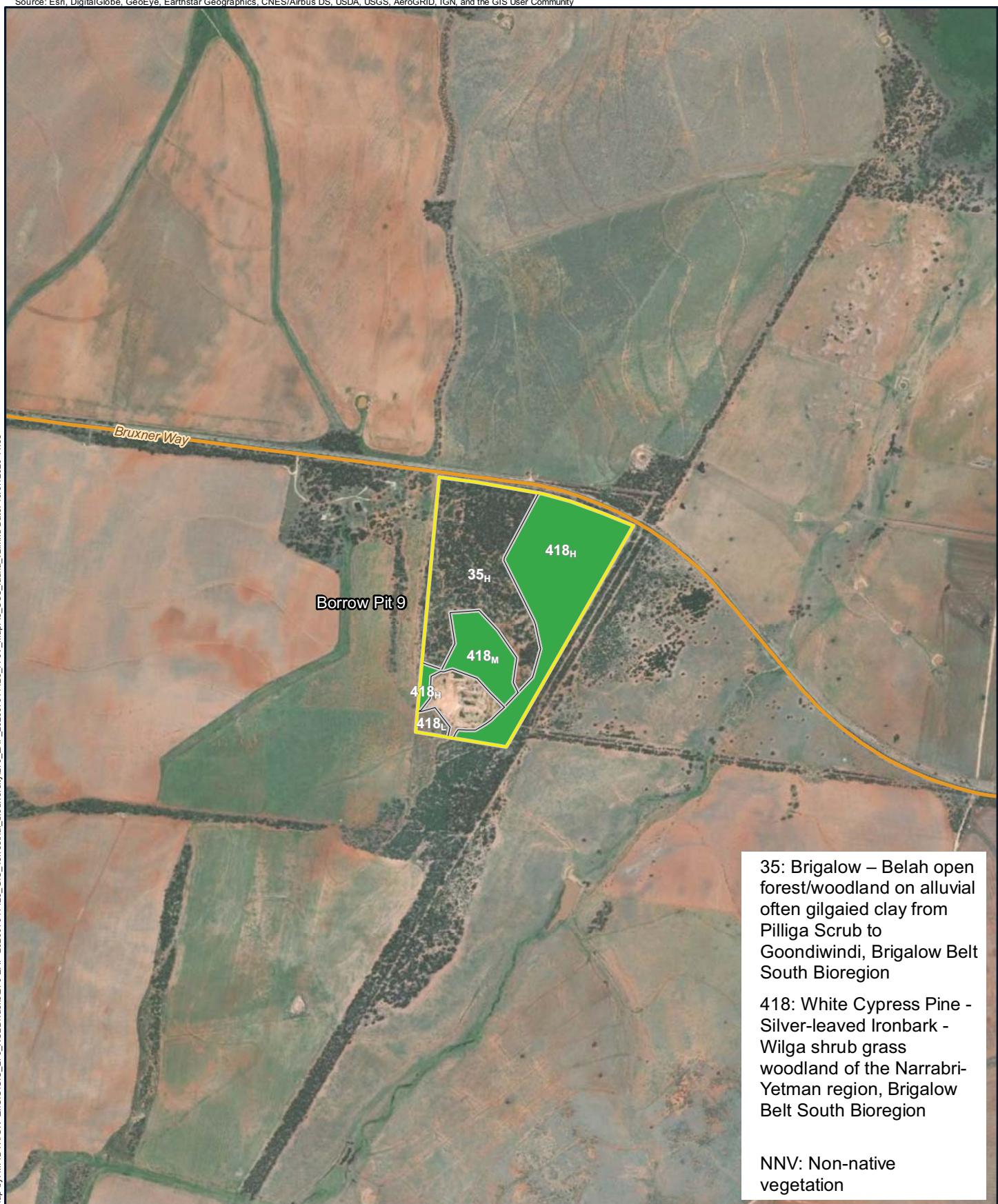
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3I: Glossy black-cockatoo
(*Calyptorhynchus lathami*)



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m



Legend

- Localities
- + Existing rail (non-operational)
- Adjoining alignments
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



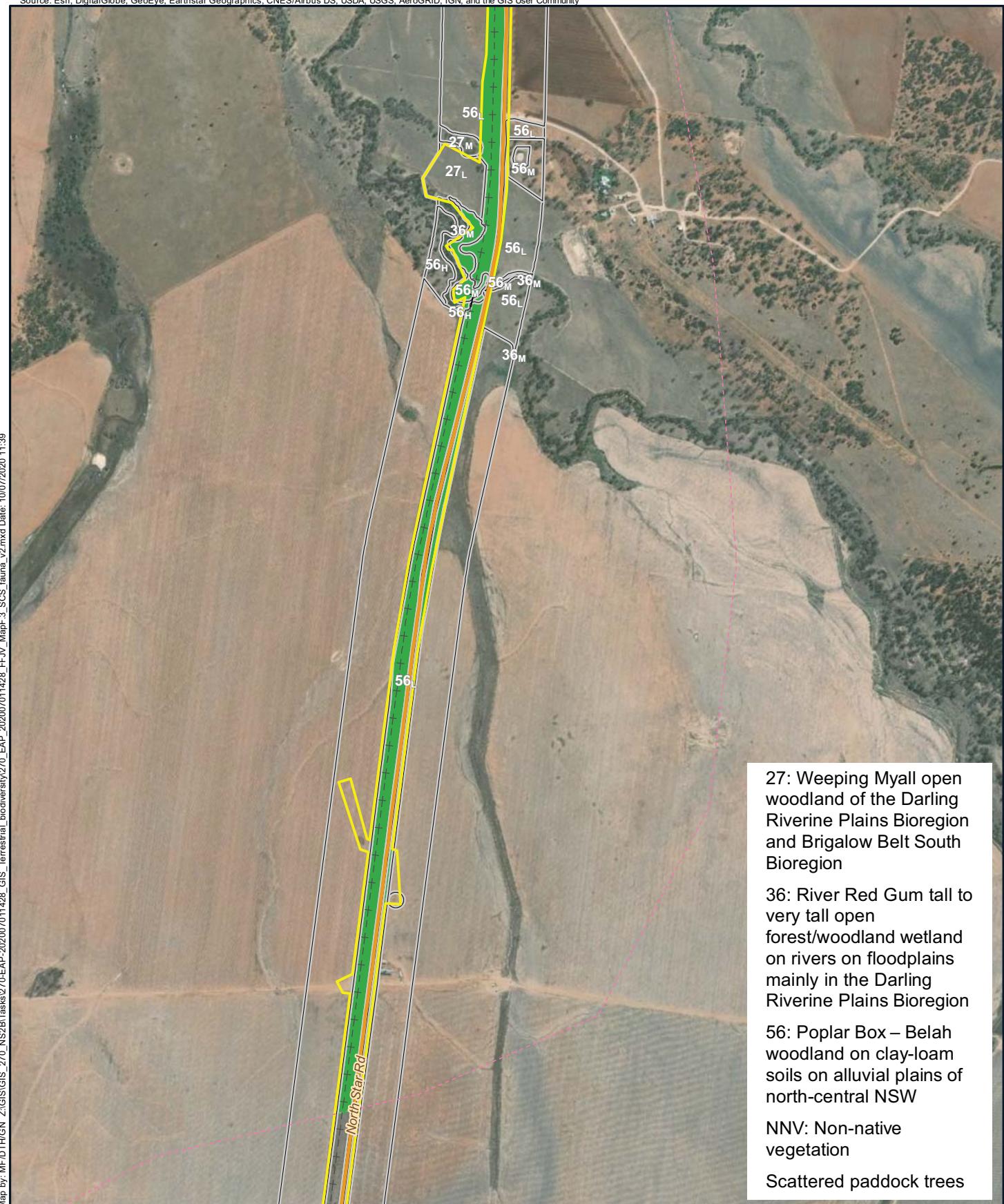
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3n: Pale-headed snake
(Hoplocephalus bitorquatus)



Legend

- Existing rail (operational)
- Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

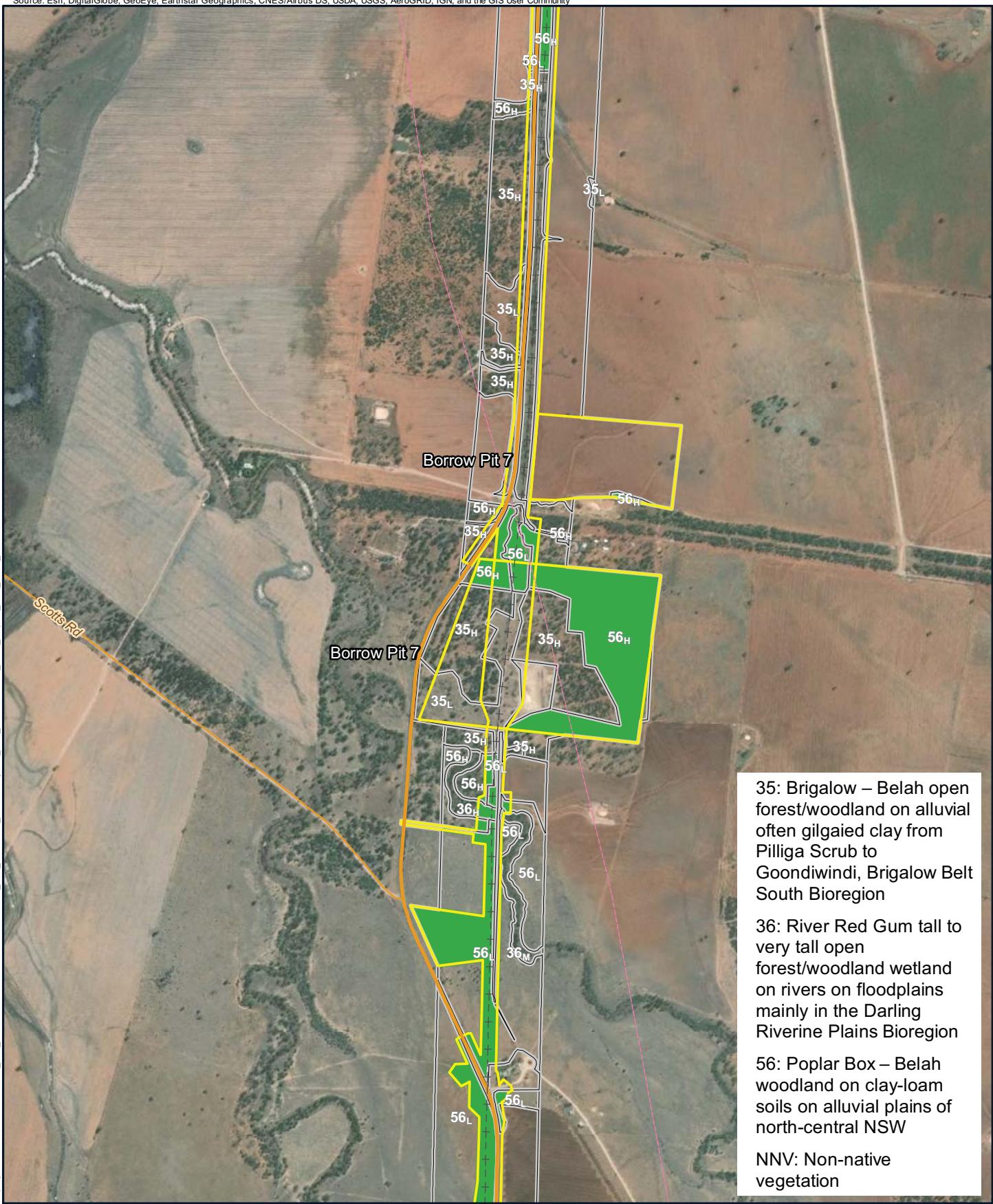
A4 scale: 1:20,000
 0 100 200 300 400 500 m



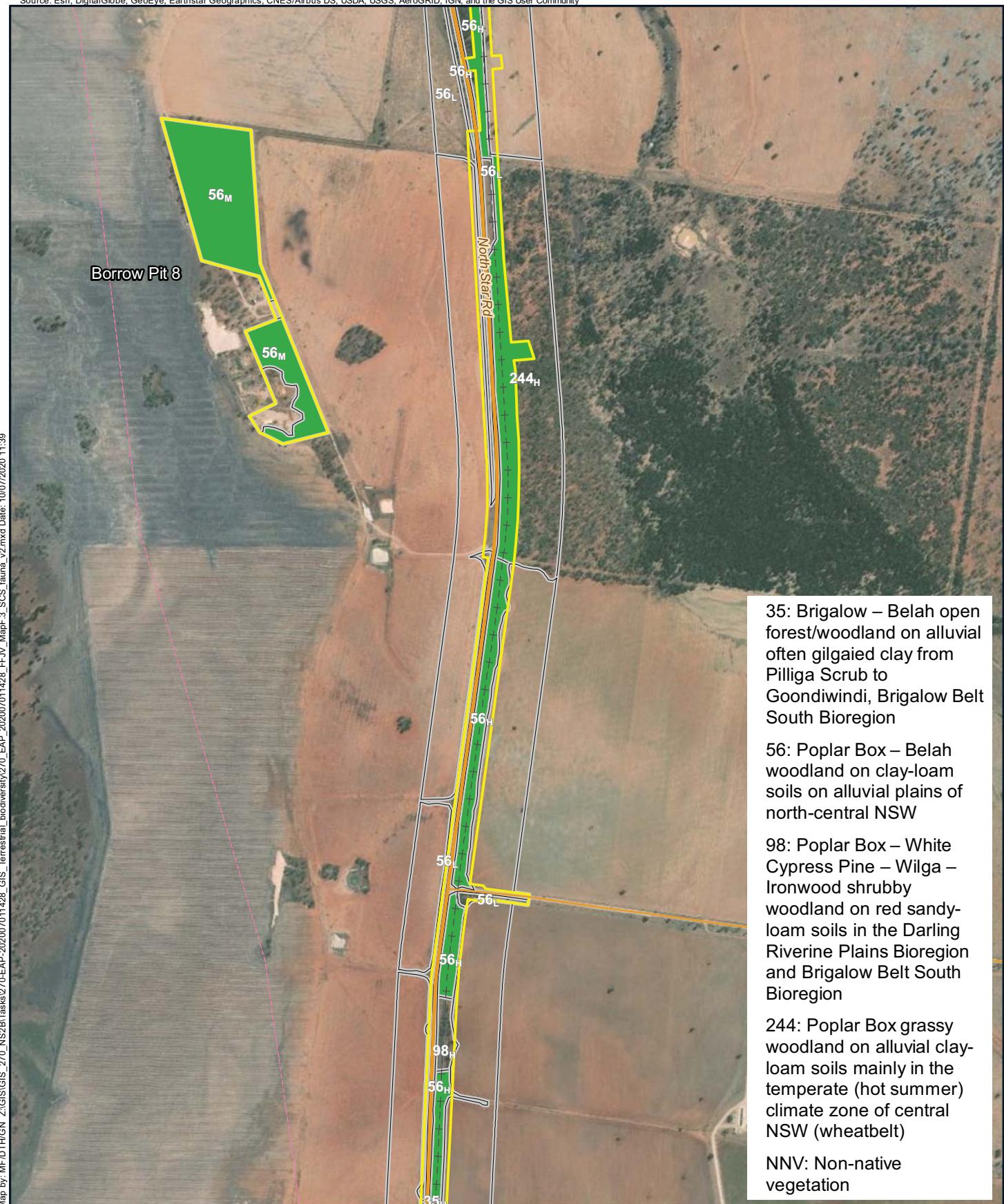
Date: 10/07/2020 Version: 2
 Coordinate system: MGA55

North Star to QLD/NSW Border

Map F.3o: Pale-headed snake (*Hoplocephalus bitorquatus*)



A4 scale: 1:20,000
 0 100 200 300 400 500 m

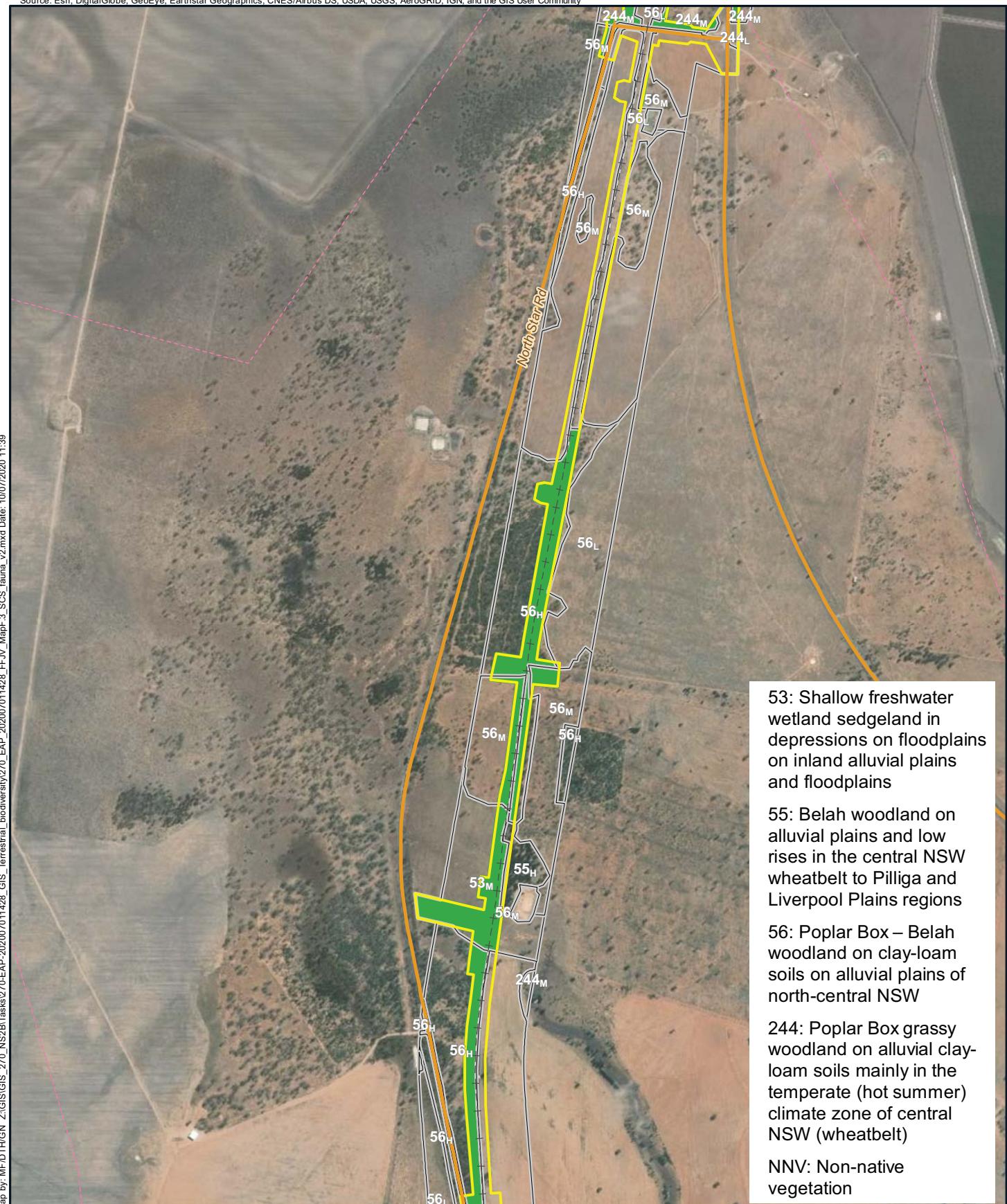


Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



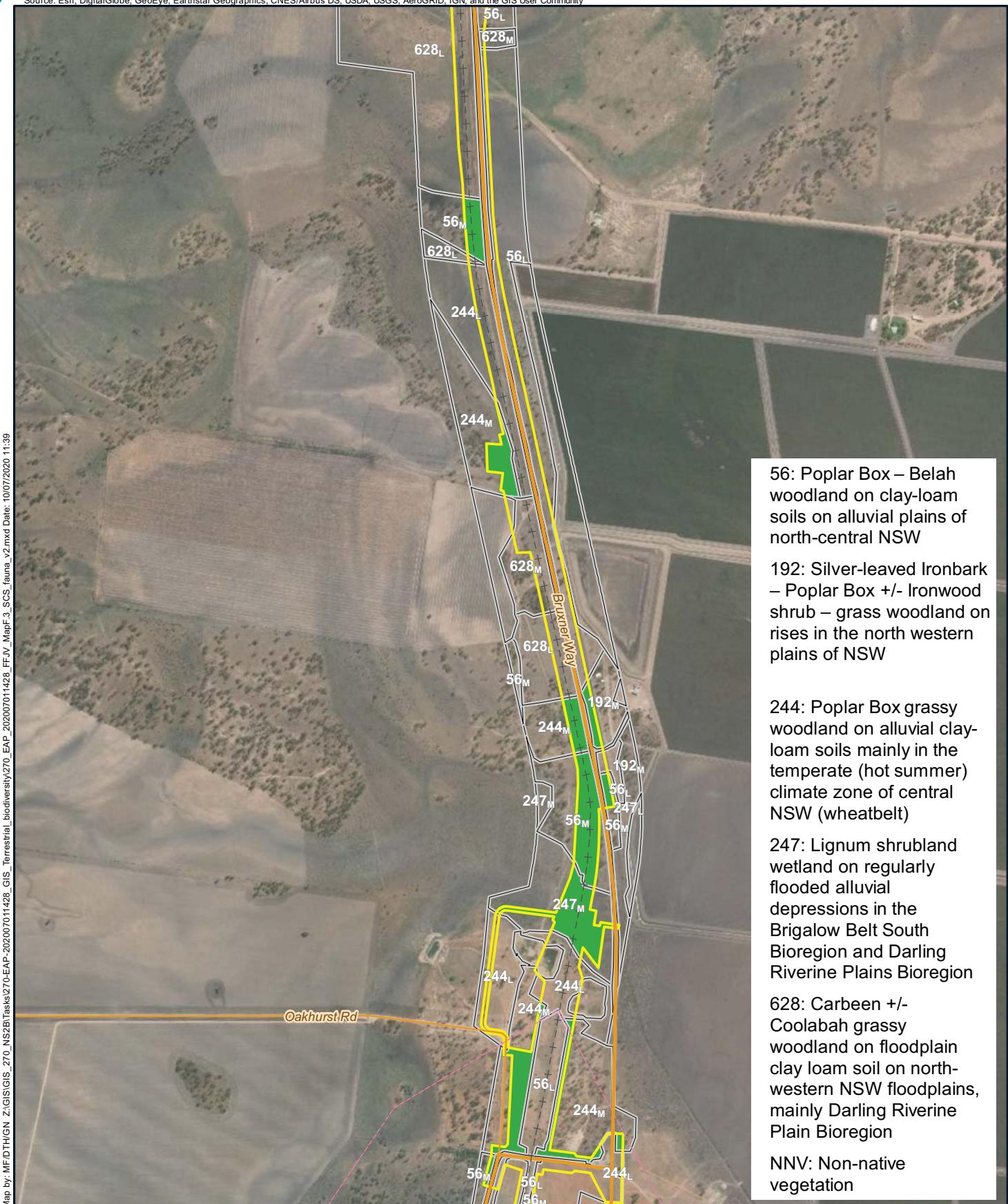
A4 scale: 1:20,000
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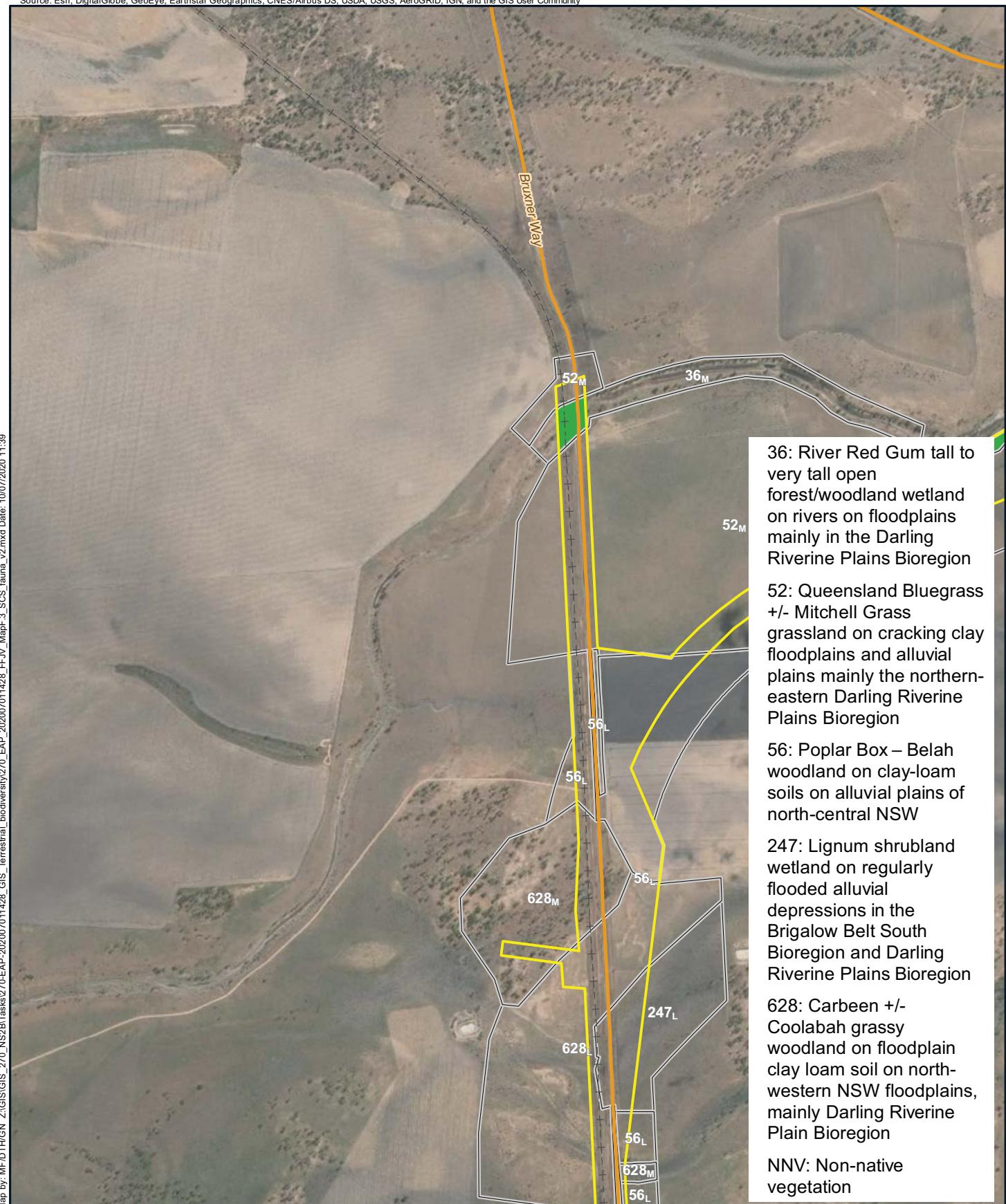
Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3r: Pale-headed snake
(Hoplcephalus bitorquatus)



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- + - Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



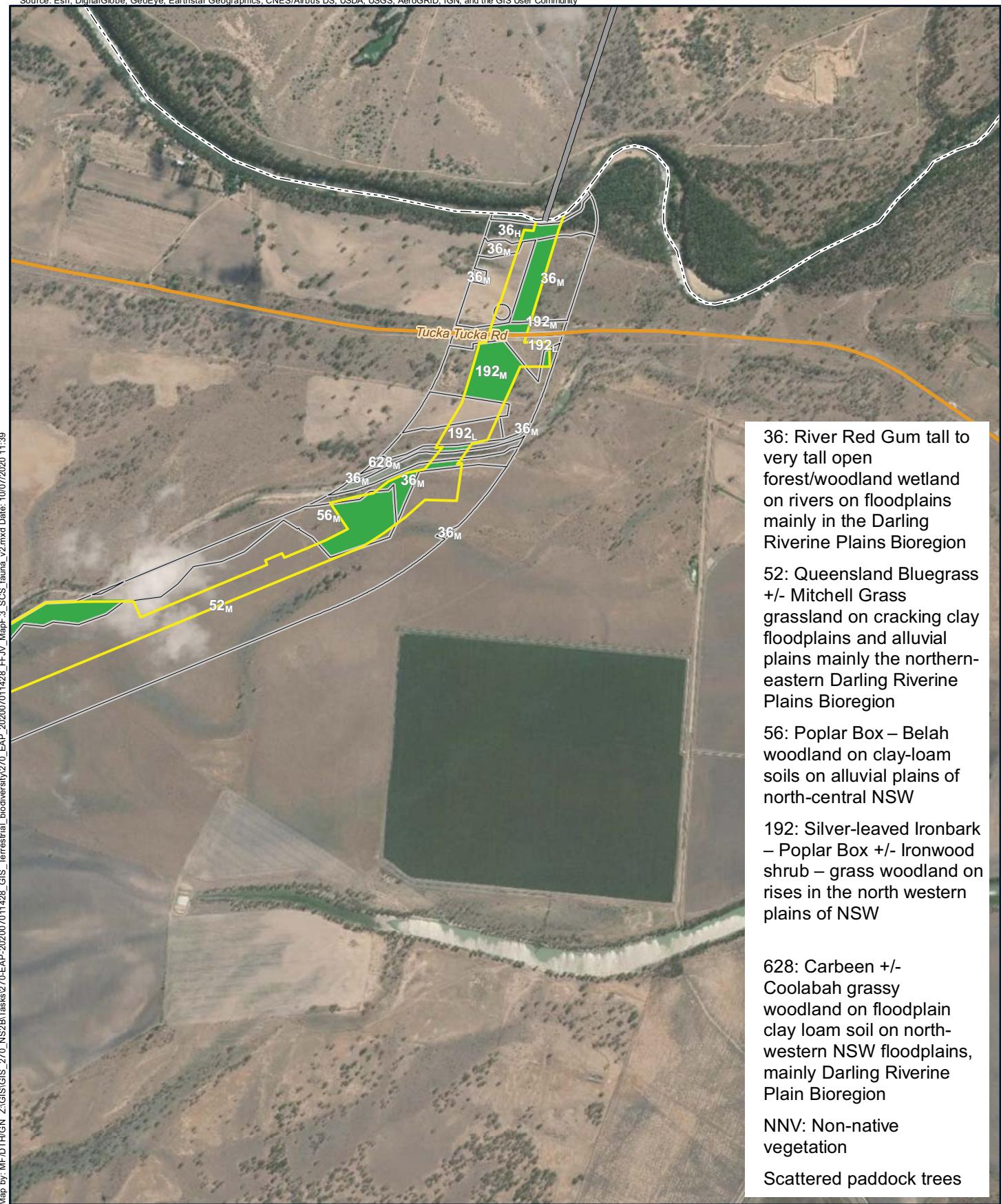
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3t: Pale-headed snake (*Hoplocephalus bitorquatus*)



Legend

- (NSW/QLD border to Gowrie alignment)
- Major roads
- - - NSW/QLD border
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



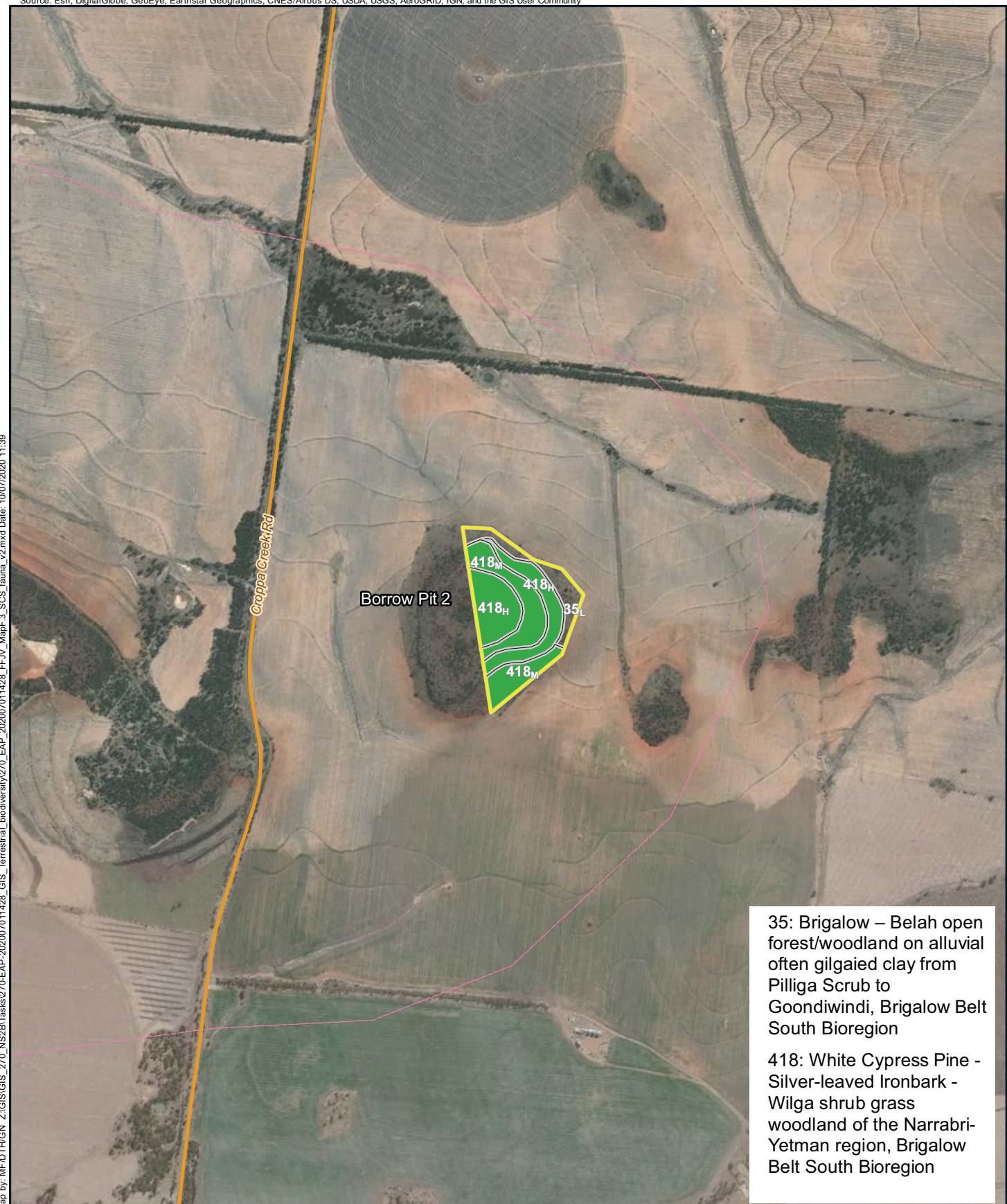
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3u: Pale-headed snake (*Hoplocephalus bitorquatus*)



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



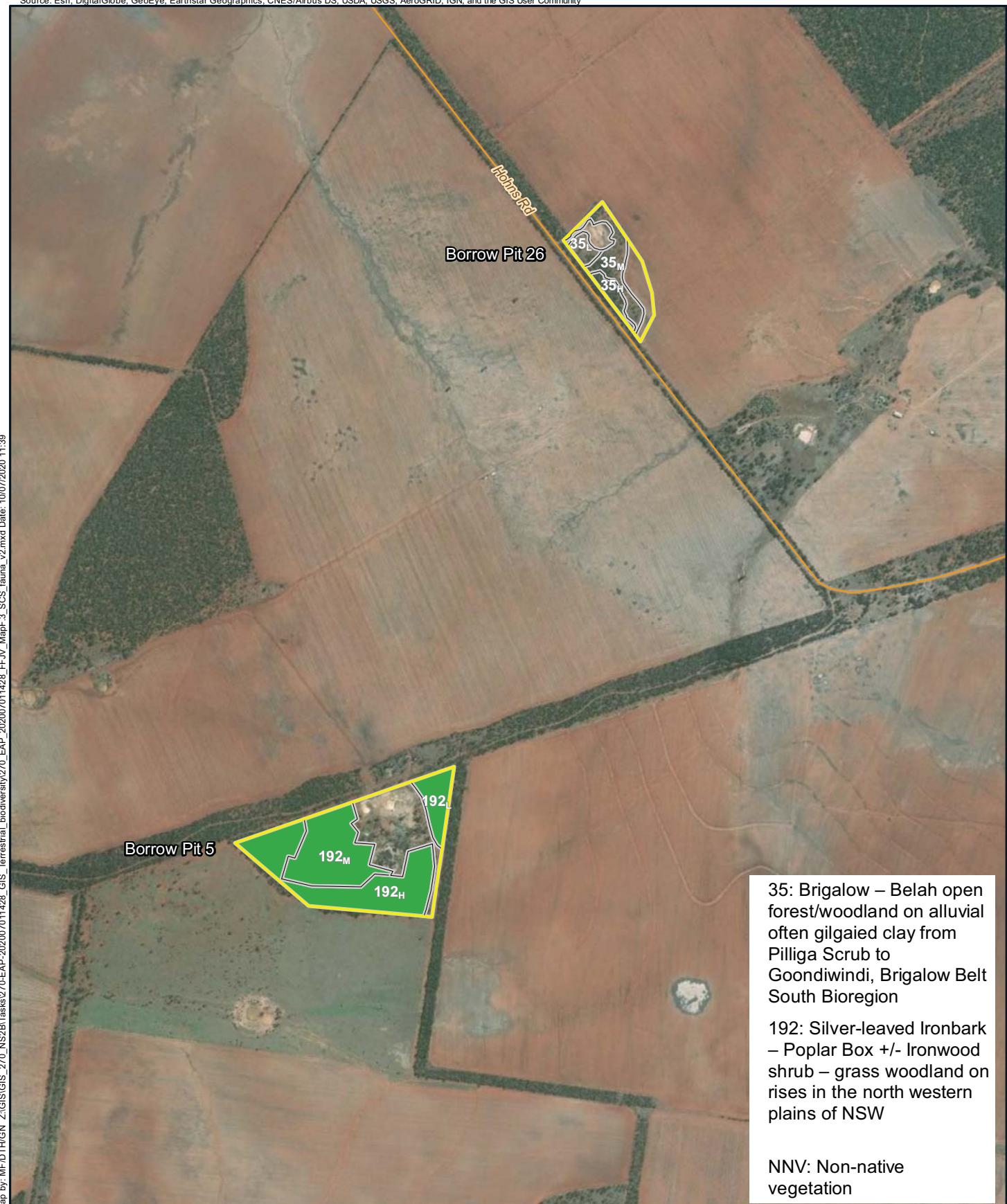
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3v: Pale-headed snake
(*Hoplocephalus bitorquatus*)



Legend

- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



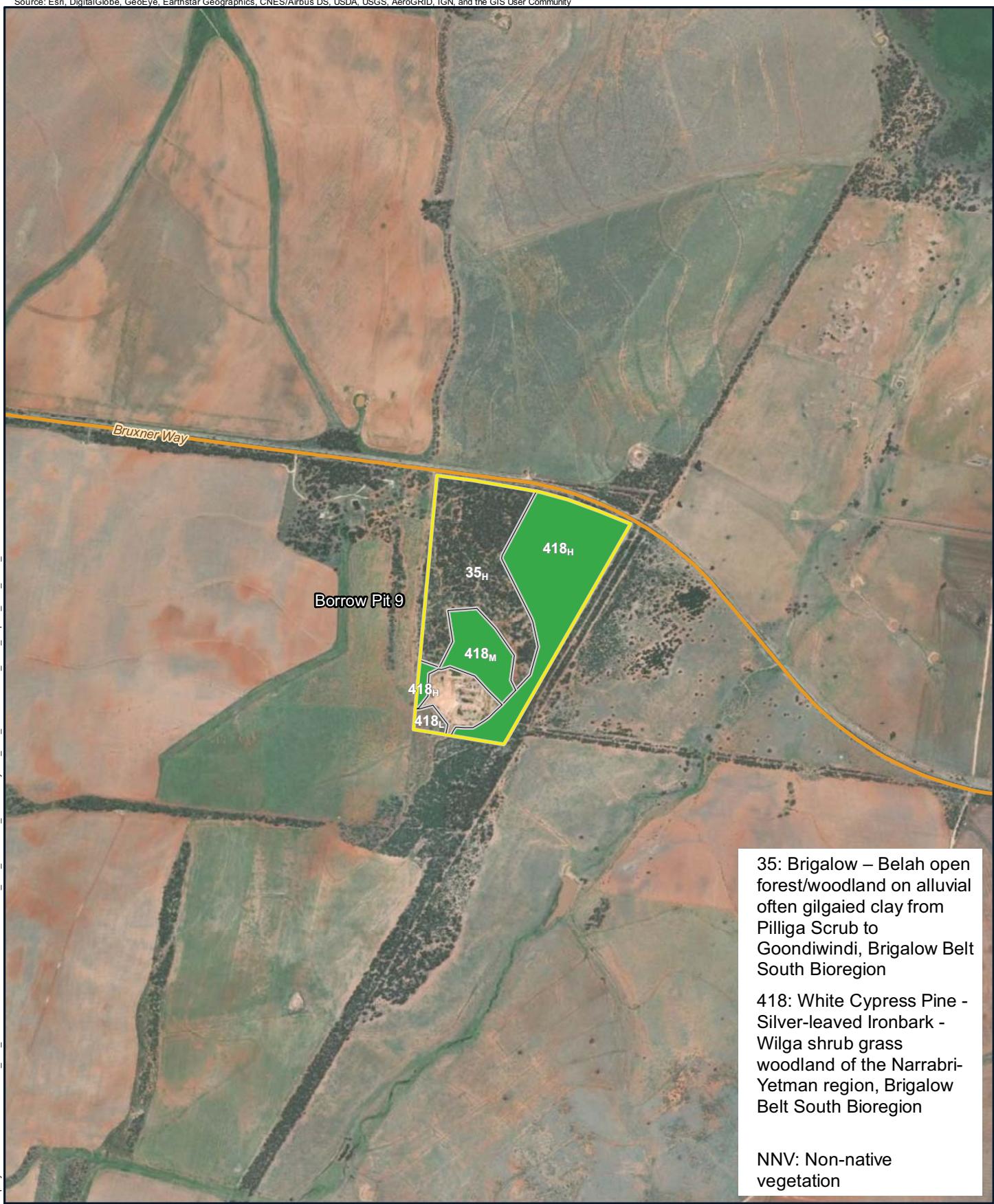
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3w: Pale-headed snake
(*Hoplocephalus bitorquatus*)



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

A4 scale: 1:20,000
0 100 200 300 400 500 m



Legend

- Localities
- + Existing rail (non-operational)
- Adjoining alignments
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land

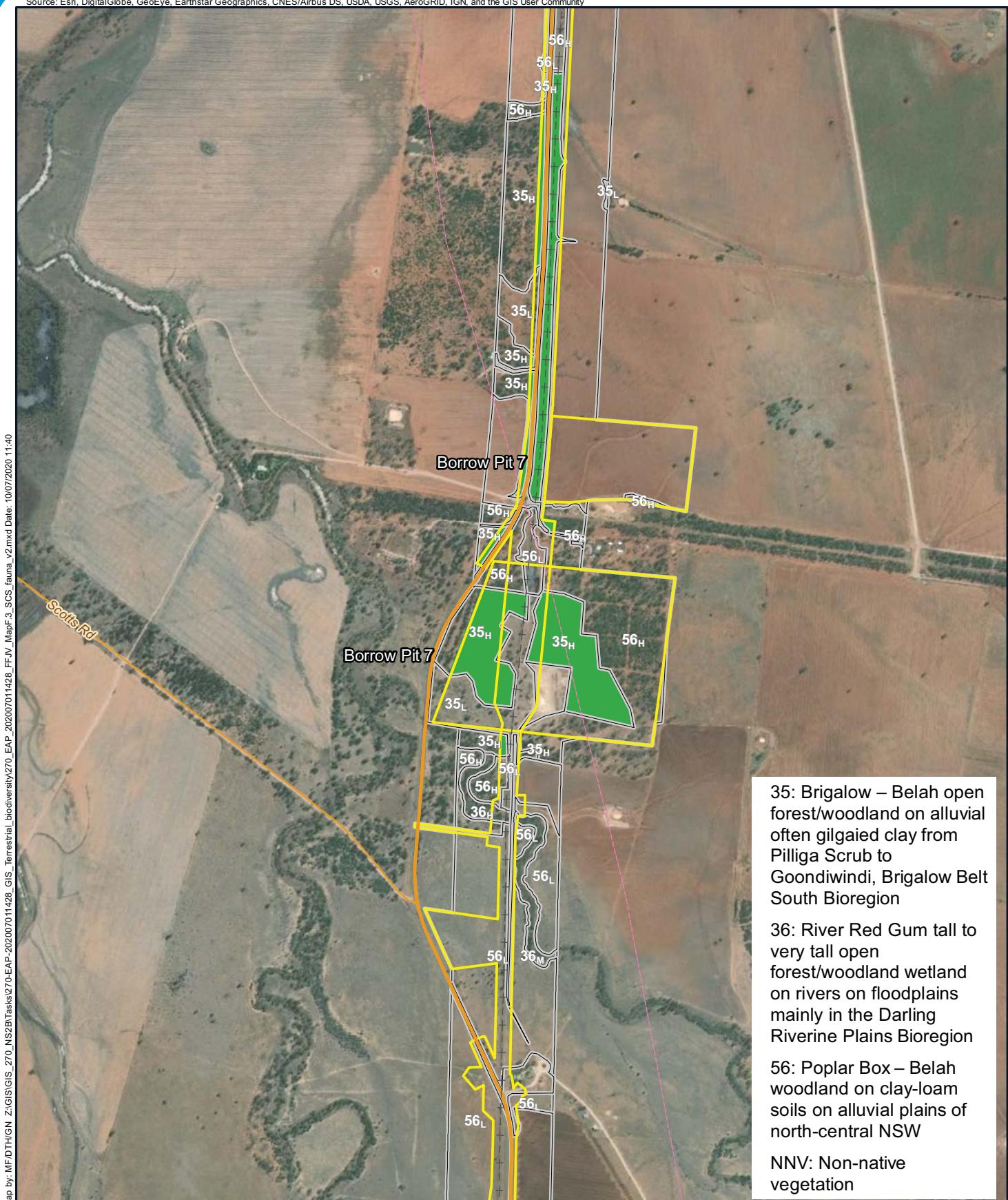


A4 scale: 1:20,000
 0 100 200 300 400 500 m

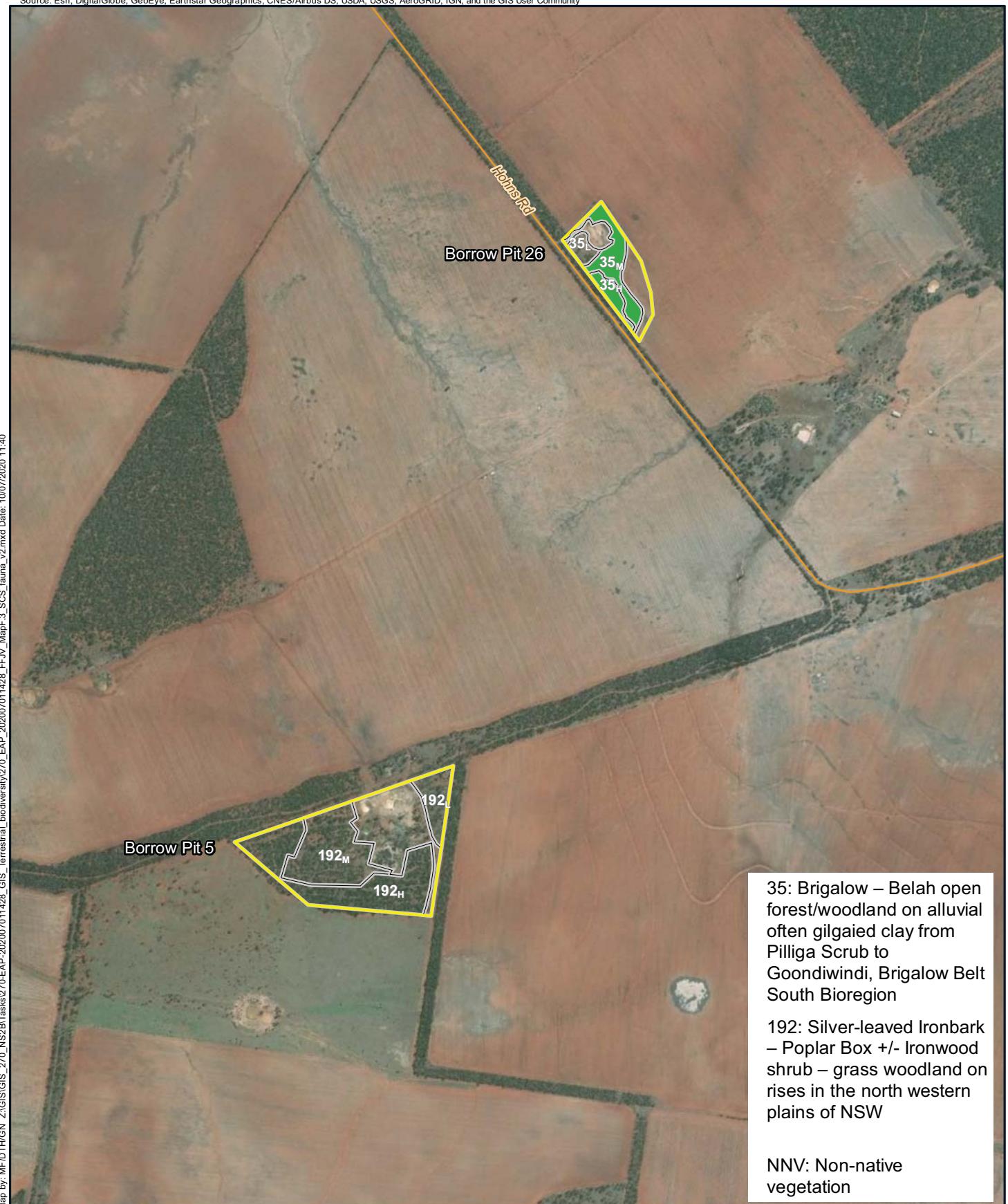


Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border
Map F.3y: Pale imperial hairstreak
(Jalmenus eubulus)



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



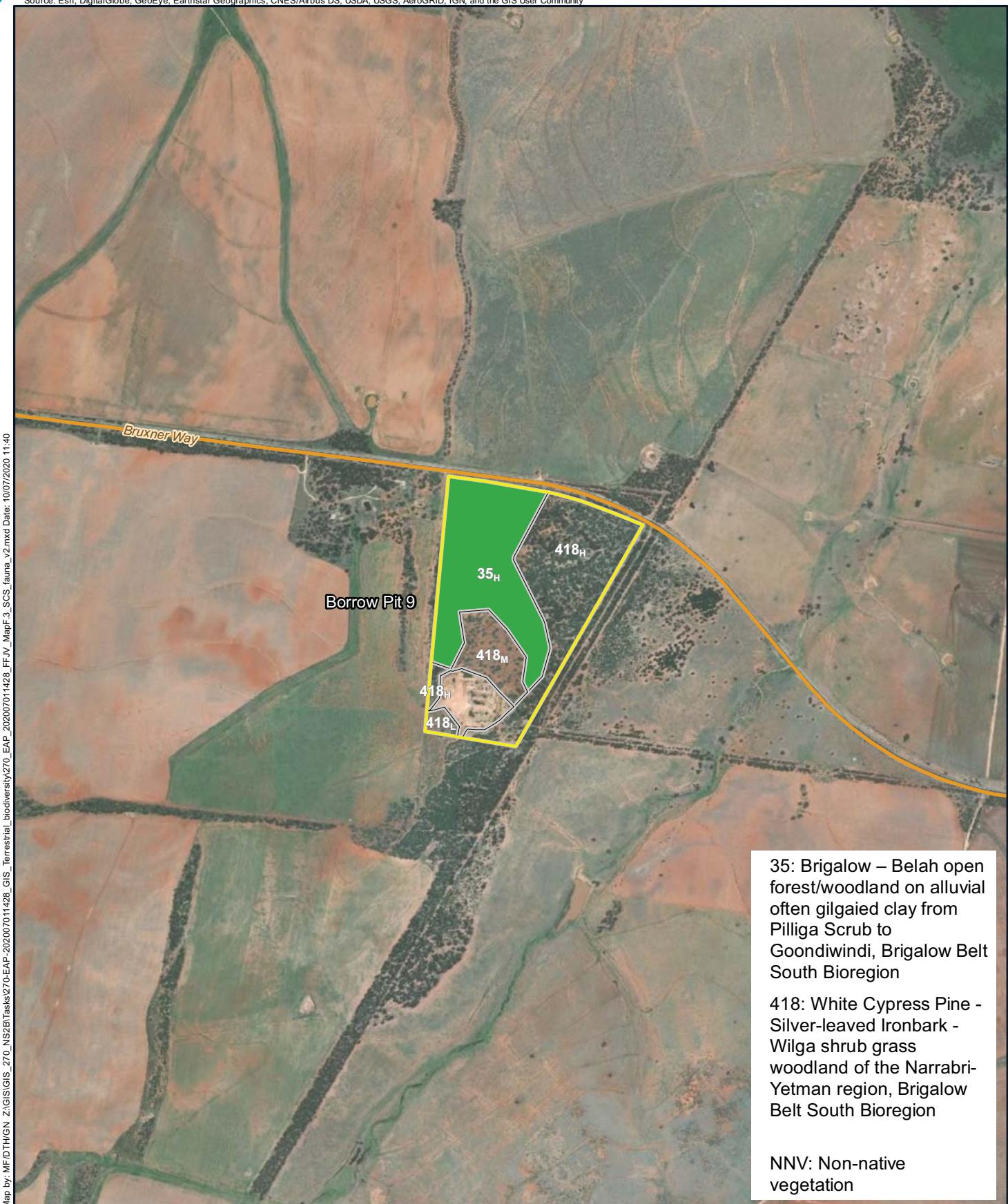
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3aa: Pale imperial hairstreak
(*Jalmenus eubulus*)



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



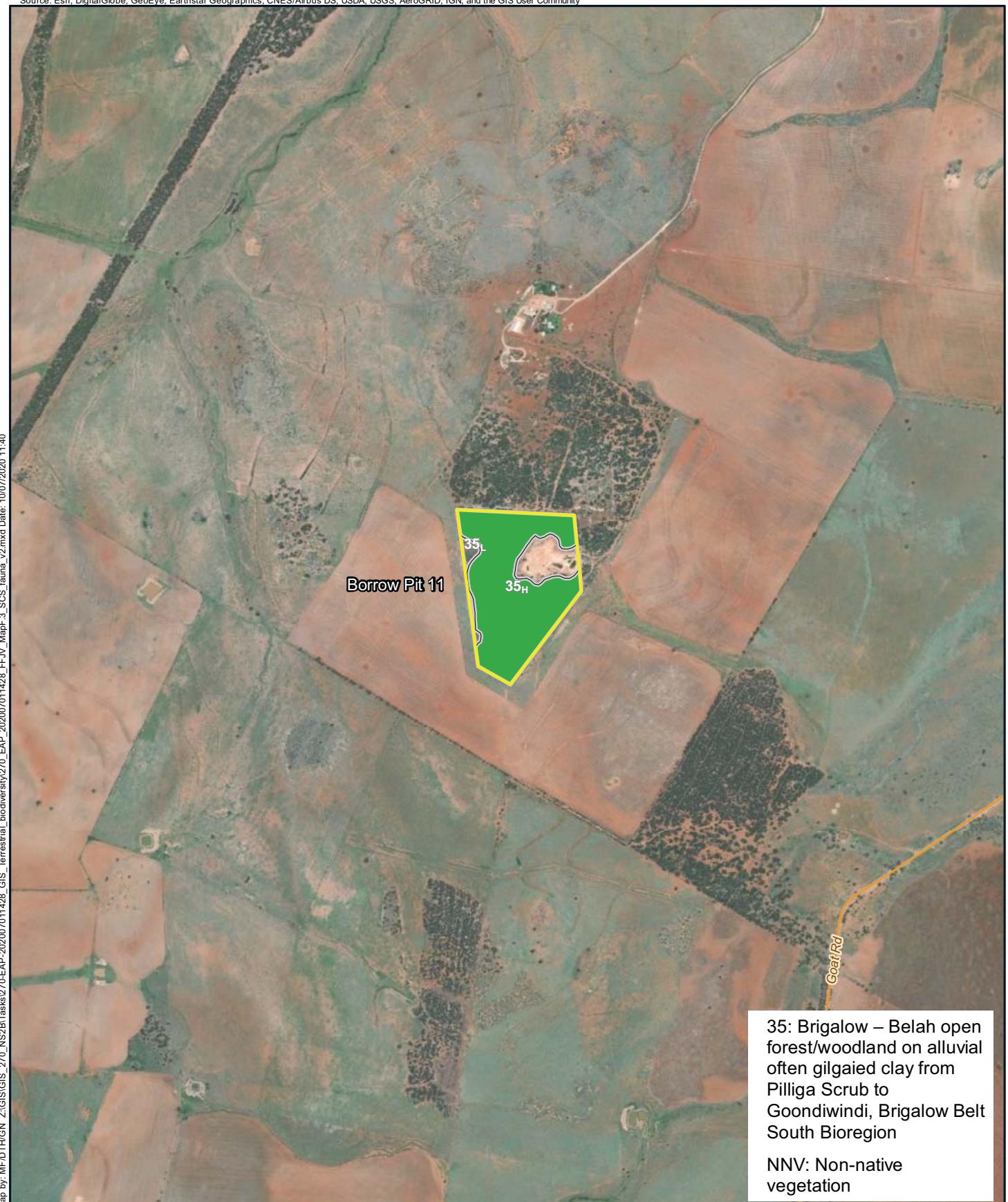
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3ab: Pale imperial hairstreak
(*Jalmenus eubulus*)



Legend

- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

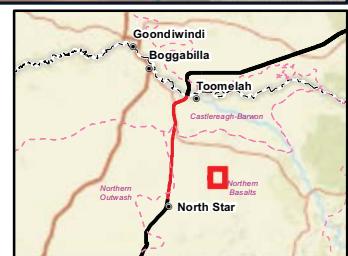


A4 scale: 1:20,000
0 100 200 300 400 500 m



Legend

- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m



Legend

- Localities
- + Existing rail (non-operational)
- Adjoining alignments
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land

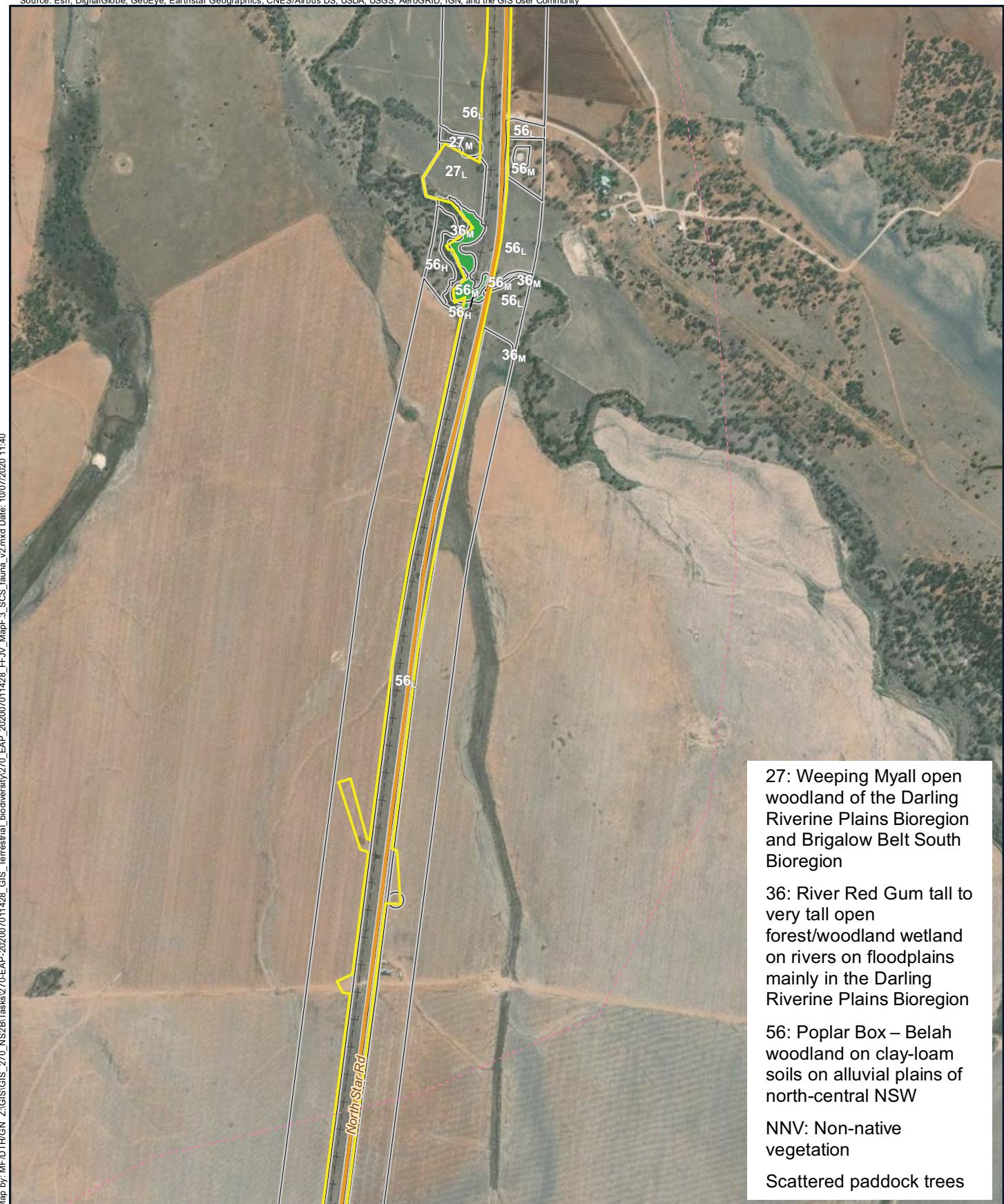


A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border
 Map F.3ae: Bristle-faced free-tailed bat, Hairy-nosed freetail bat
(Mormopterus eleryi)



Legend

- Existing rail (operational)
- + Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- - - IBRA 7 sub-region boundary
- Subject land

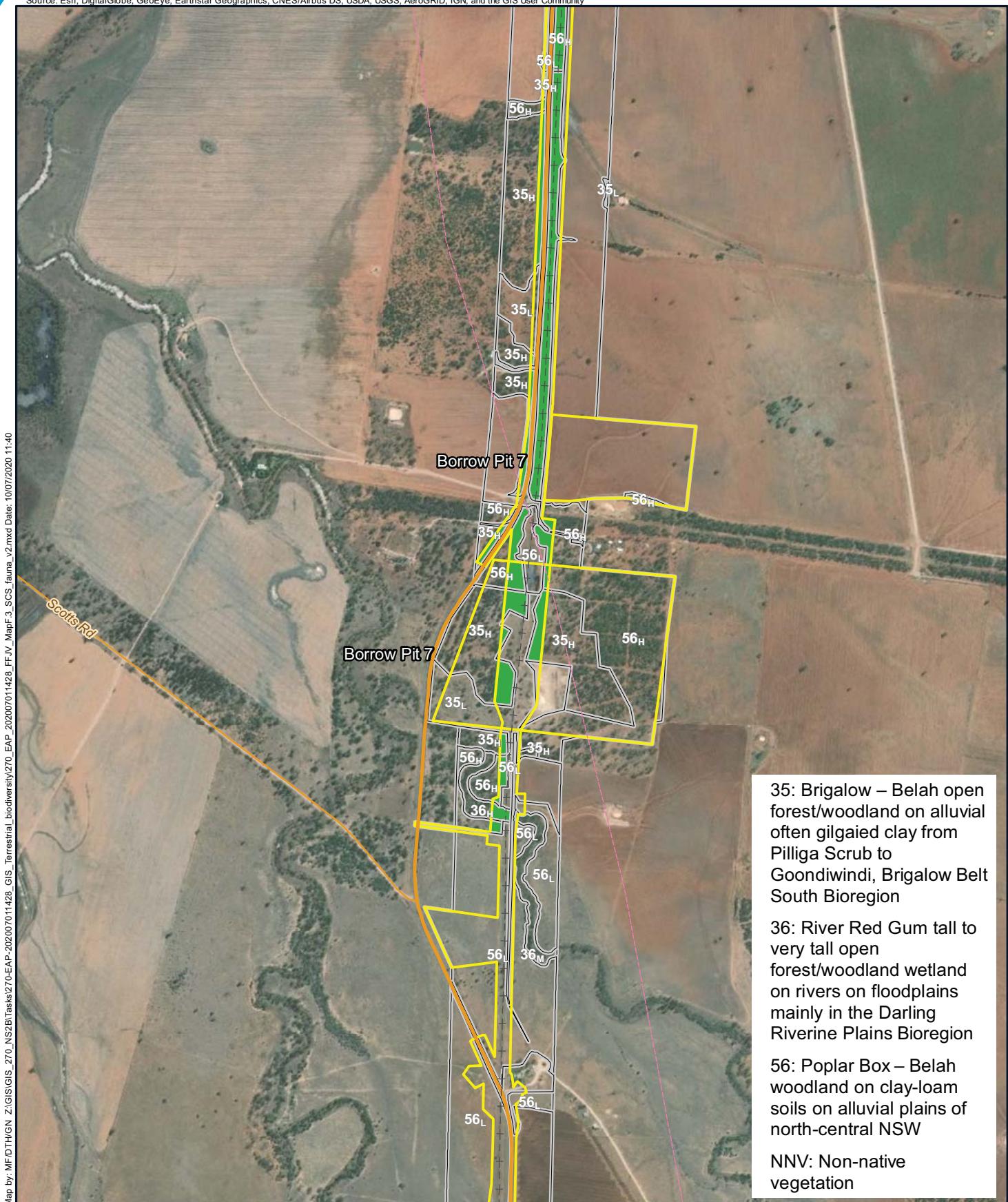


A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA55

North Star to QLD/NSW Border
 Map F.3af: Bristle-faced free-tailed bat, Hairy-nosed freetail bat
(Mormopterus eleryi)



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land

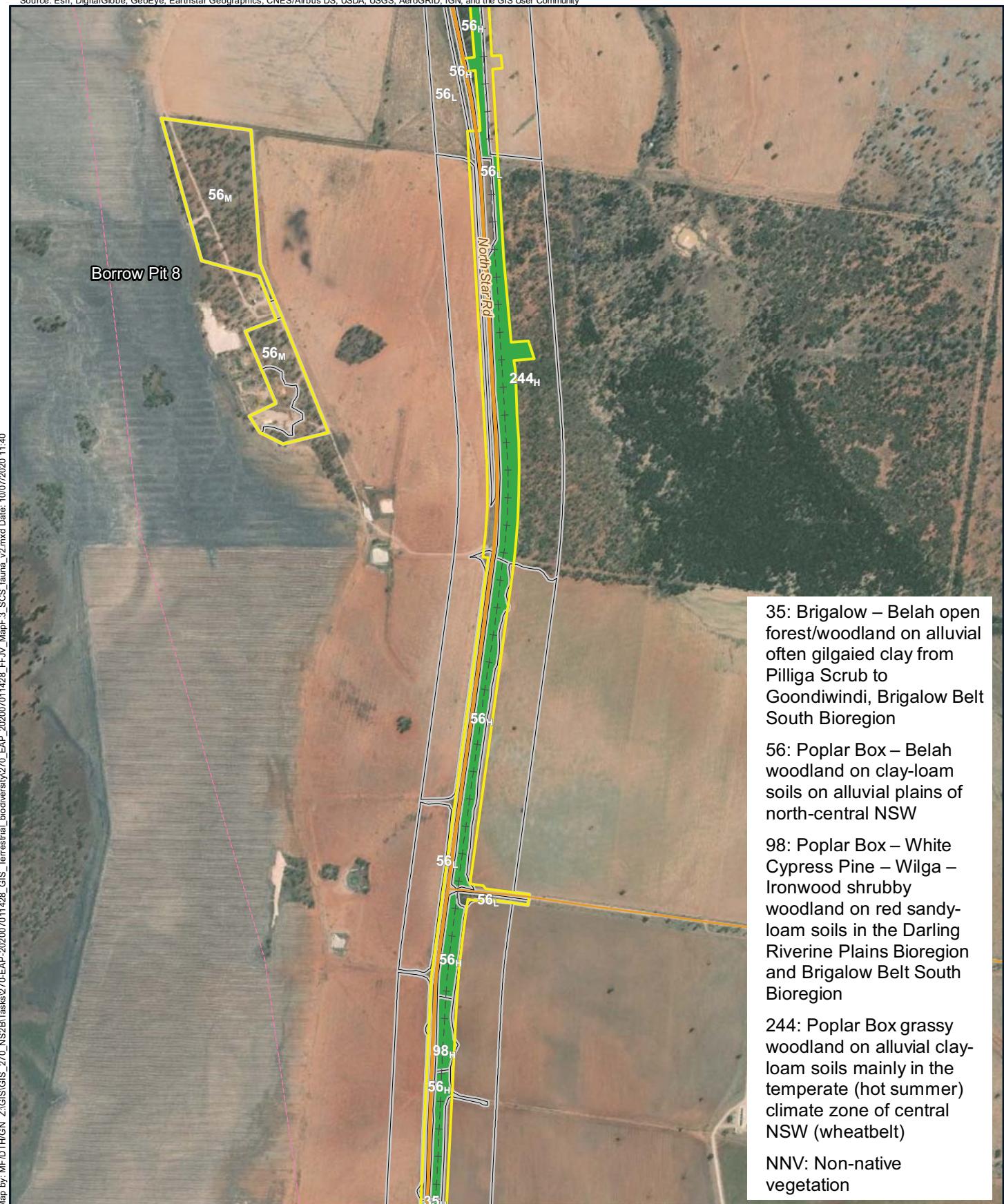


A4 scale: 1:20,000
 0 100 200 300 400 500 m

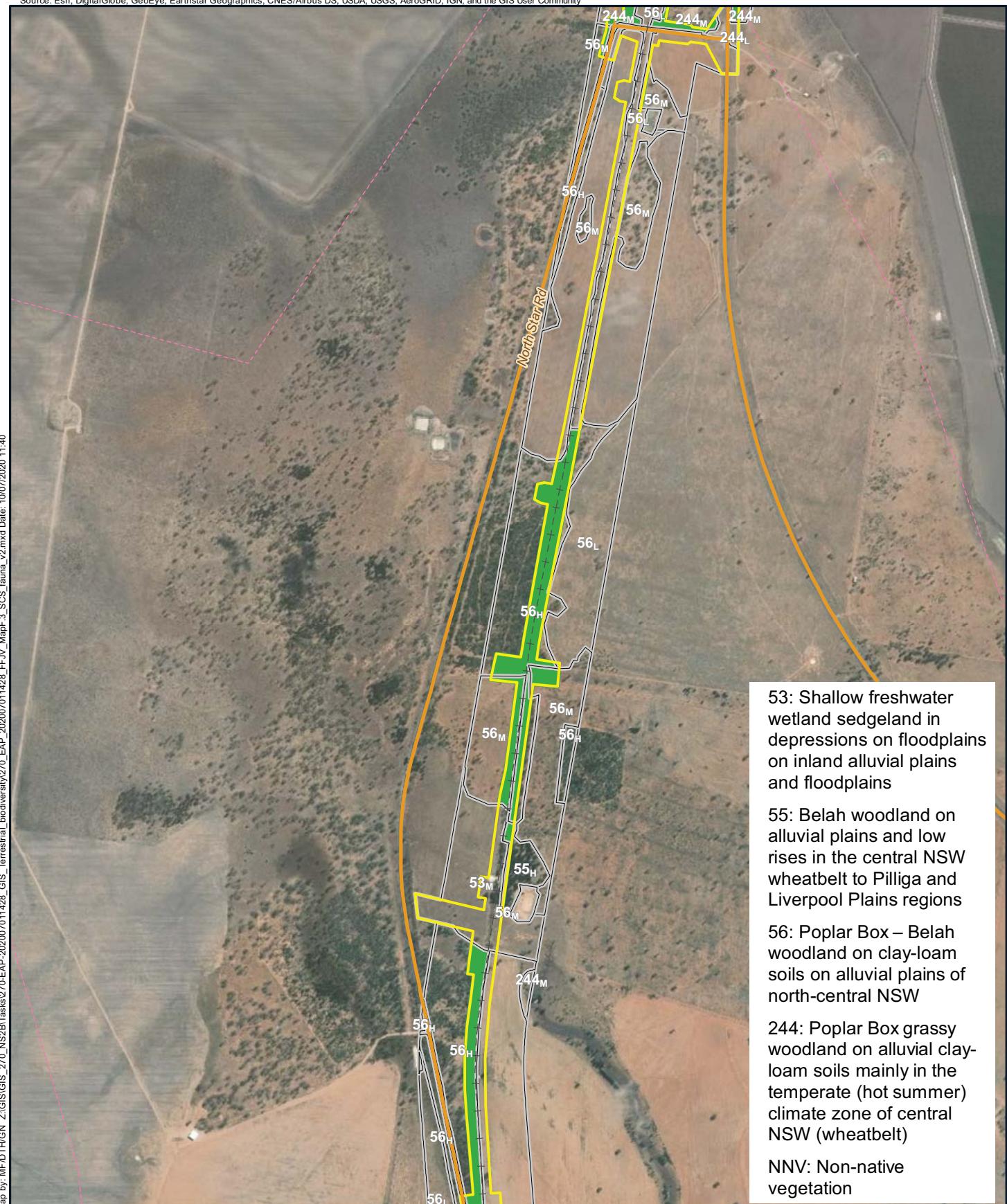


Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border
 Map F.3ag: Bristle-faced free-tailed bat, Hairy-nosed freetail bat
(Mormopterus eleryi)



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- - - IBRA 7 sub-region boundary
- Subject land

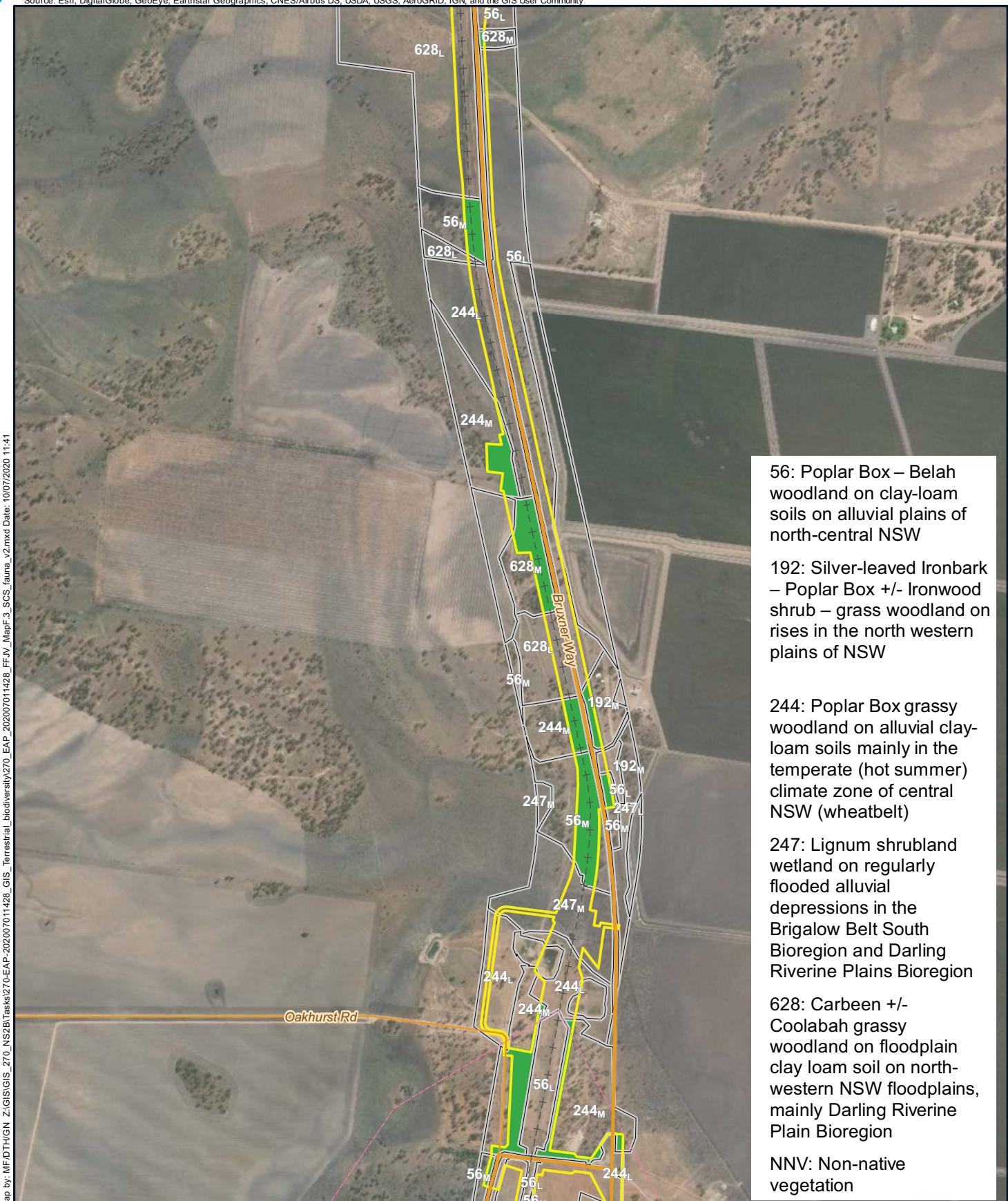


A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border
Map F.3ai: Bristle-faced free-tailed bat, Hairy-nosed freetail bat (*Mormopterus eleryi*)

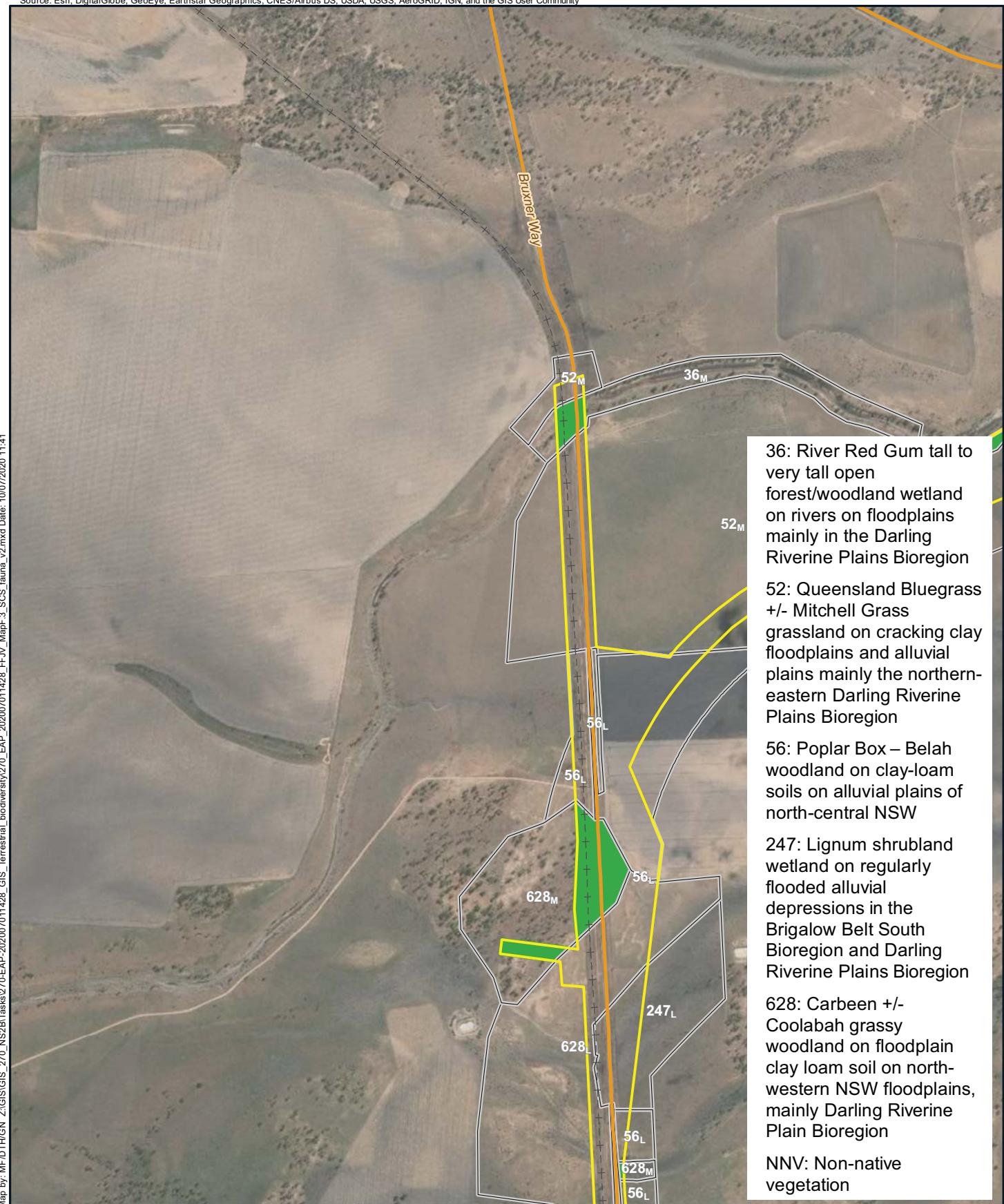


A4 scale: 1:20,000
 0 100 200 300 400 500 m

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North Star to QLD/NSW Border
Map F.3aj: Bristle-faced free-tailed bat, Hairy-nosed freetail bat (*Mormopterus eleryi*)



Legend

- + - Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

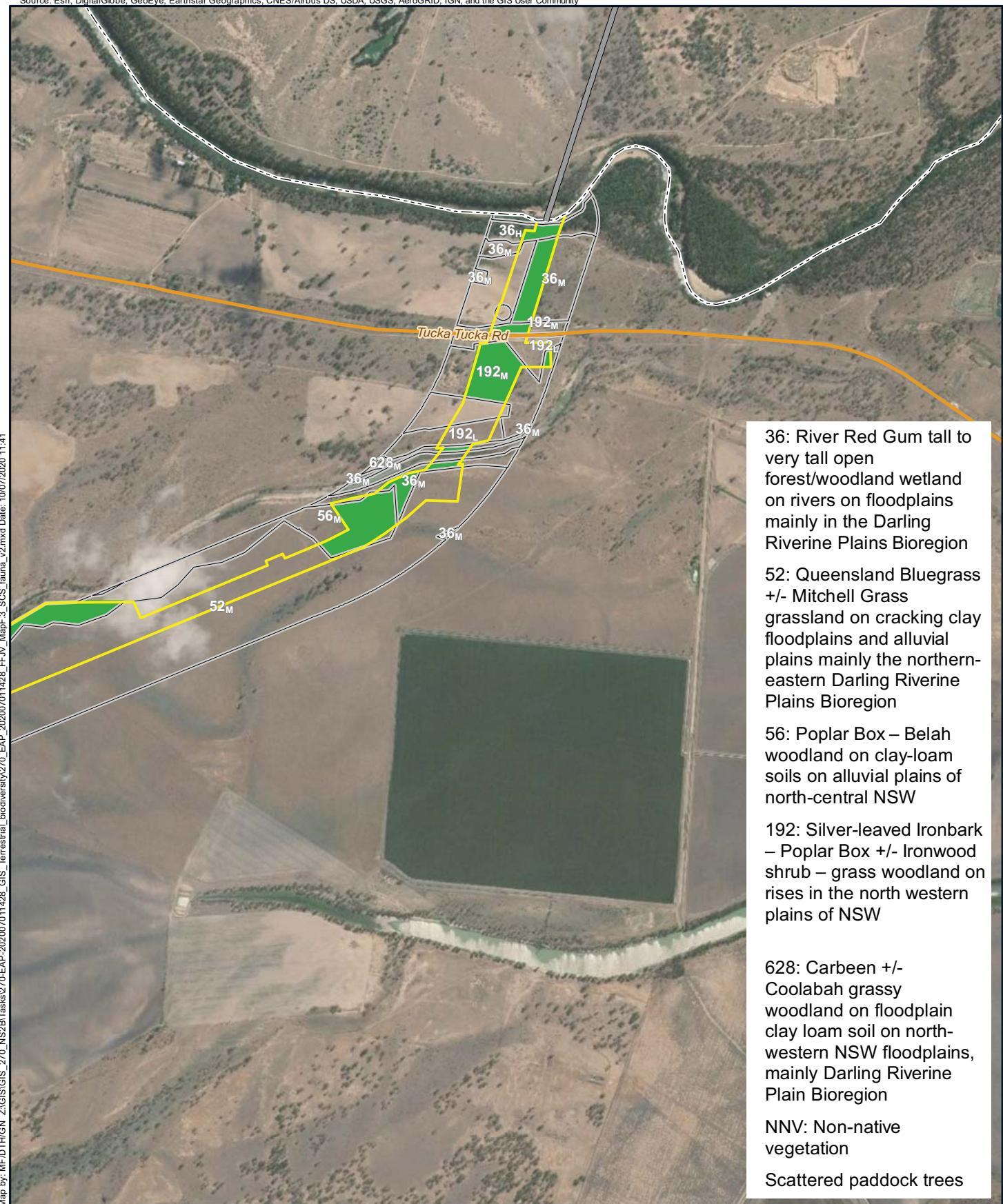


A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border
Map F.3ak: Bristle-faced free-tailed bat, Hairy-nosed freetail bat (*Mormopterus eleryi*)



Legend

- (NSW/QLD border to Gowrie alignment)
- Major roads
- NSW/QLD border
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

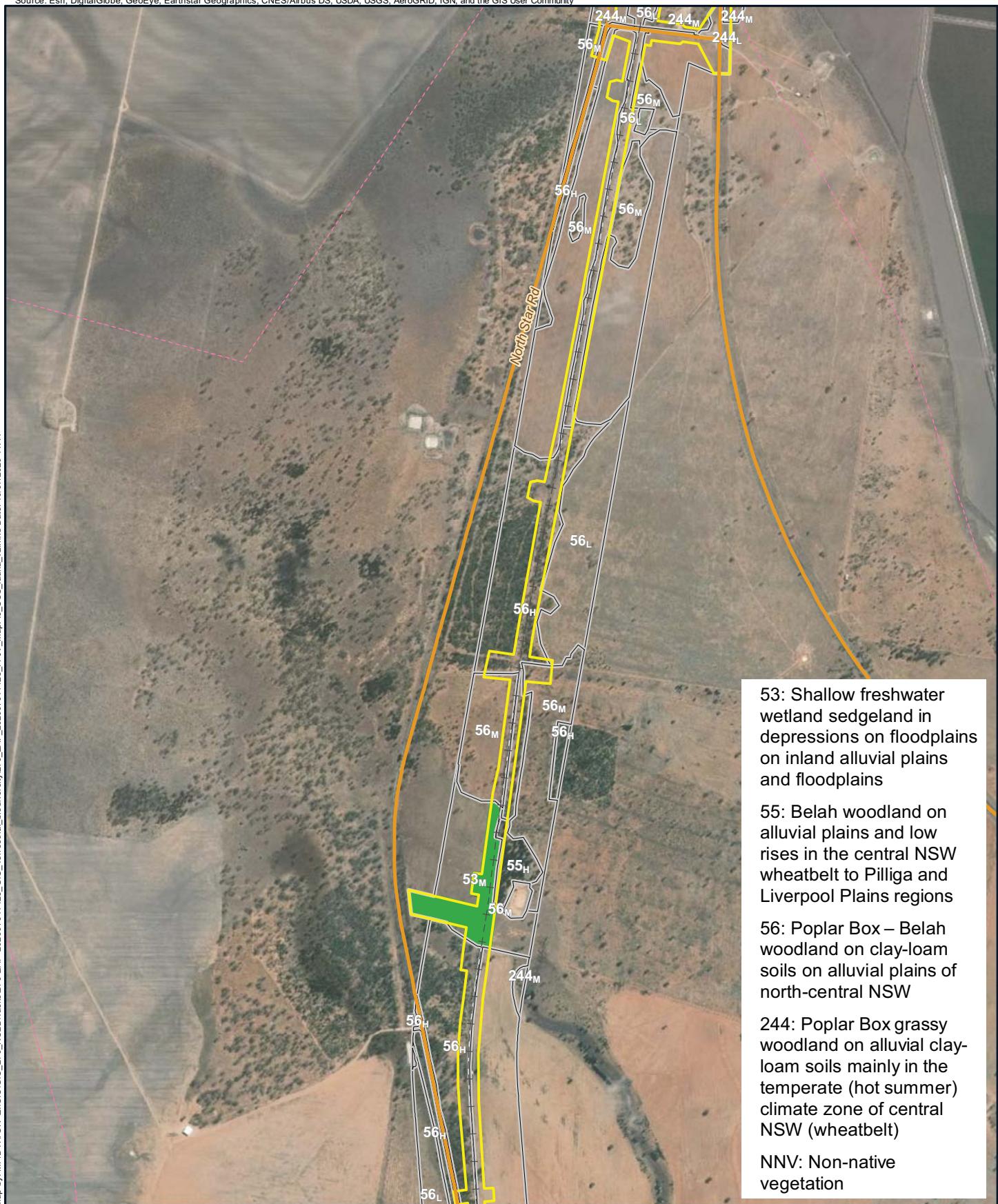


A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA55

North Star to QLD/NSW Border
 Map F.3a1: Bristle-faced free-tailed bat, Hairy-nosed freetail bat
(Mormopterus eleryi)



Legend

- + Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



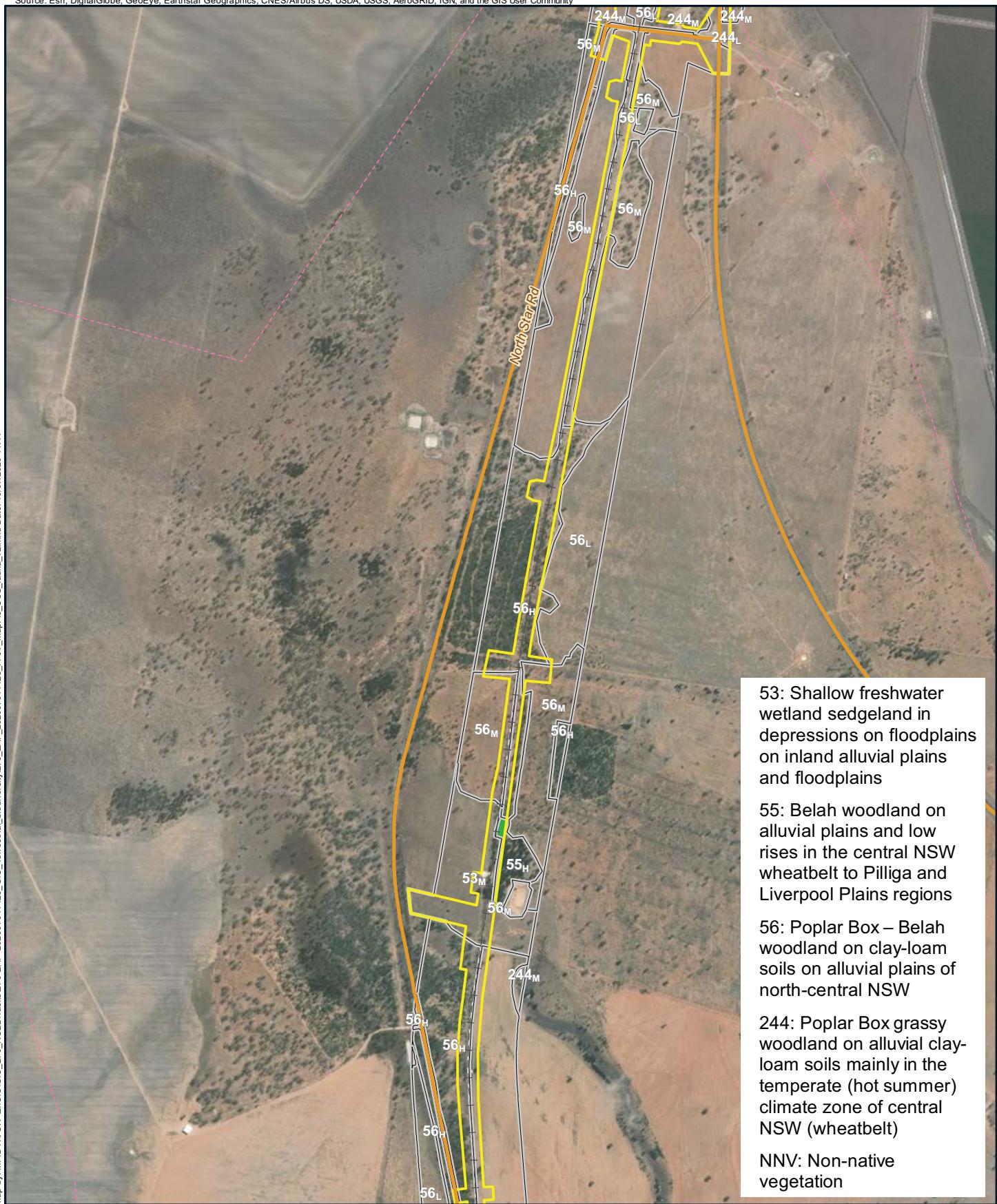
A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3am: Cotton pygmy-goose (*Nettapus coromandelianus*)



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



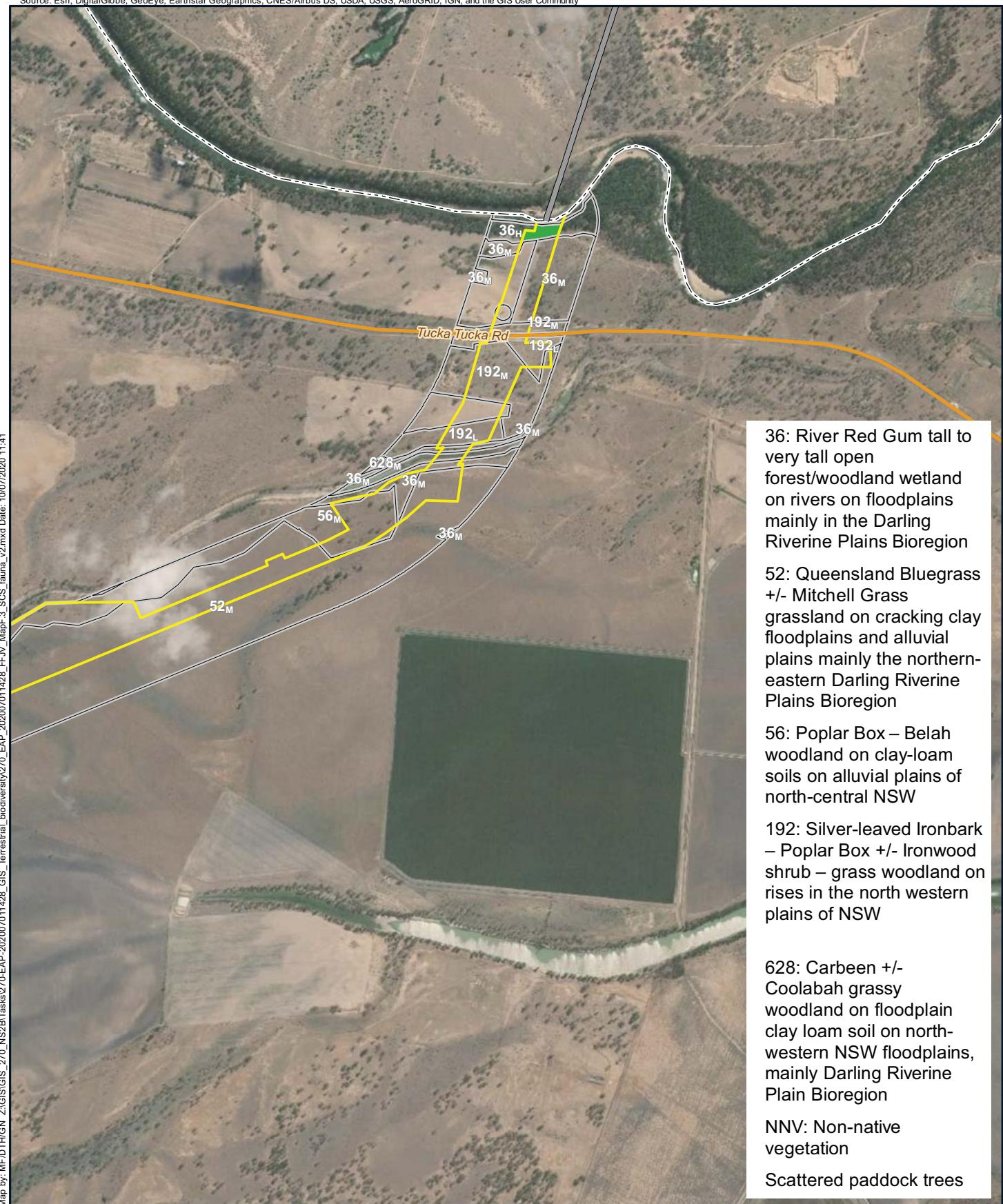
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3an: Squirrel glider (*Petaurus norfolkensis*)



Legend

- (NSW/QLD border to Gowrie alignment)
- Major roads
- NSW/QLD border
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land

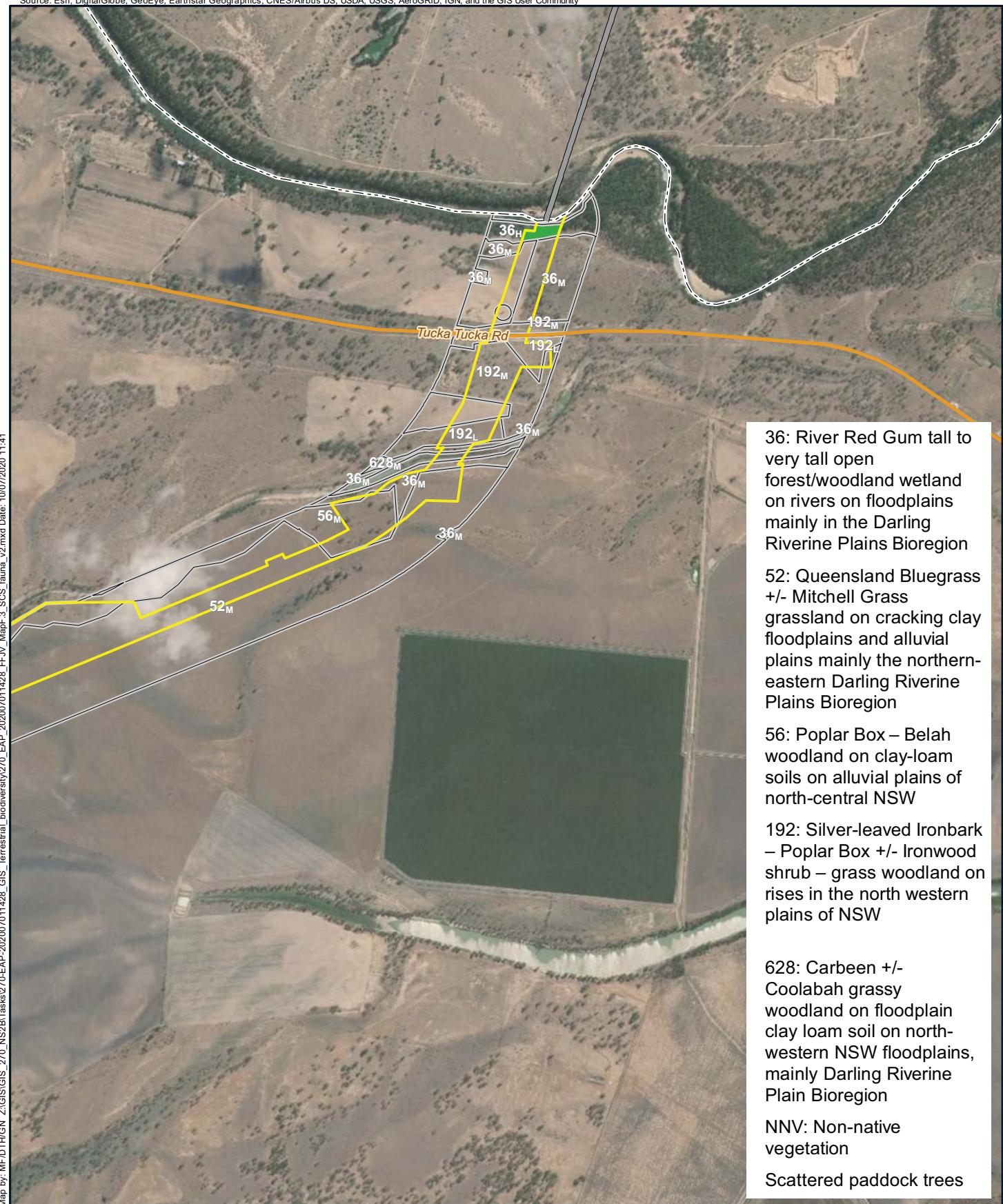
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3ao: Squirrel glider
(Petaurus norfolkensis)



Legend

- (NSW/QLD border to Gowrie alignment)
- Major roads
- NSW/QLD border
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



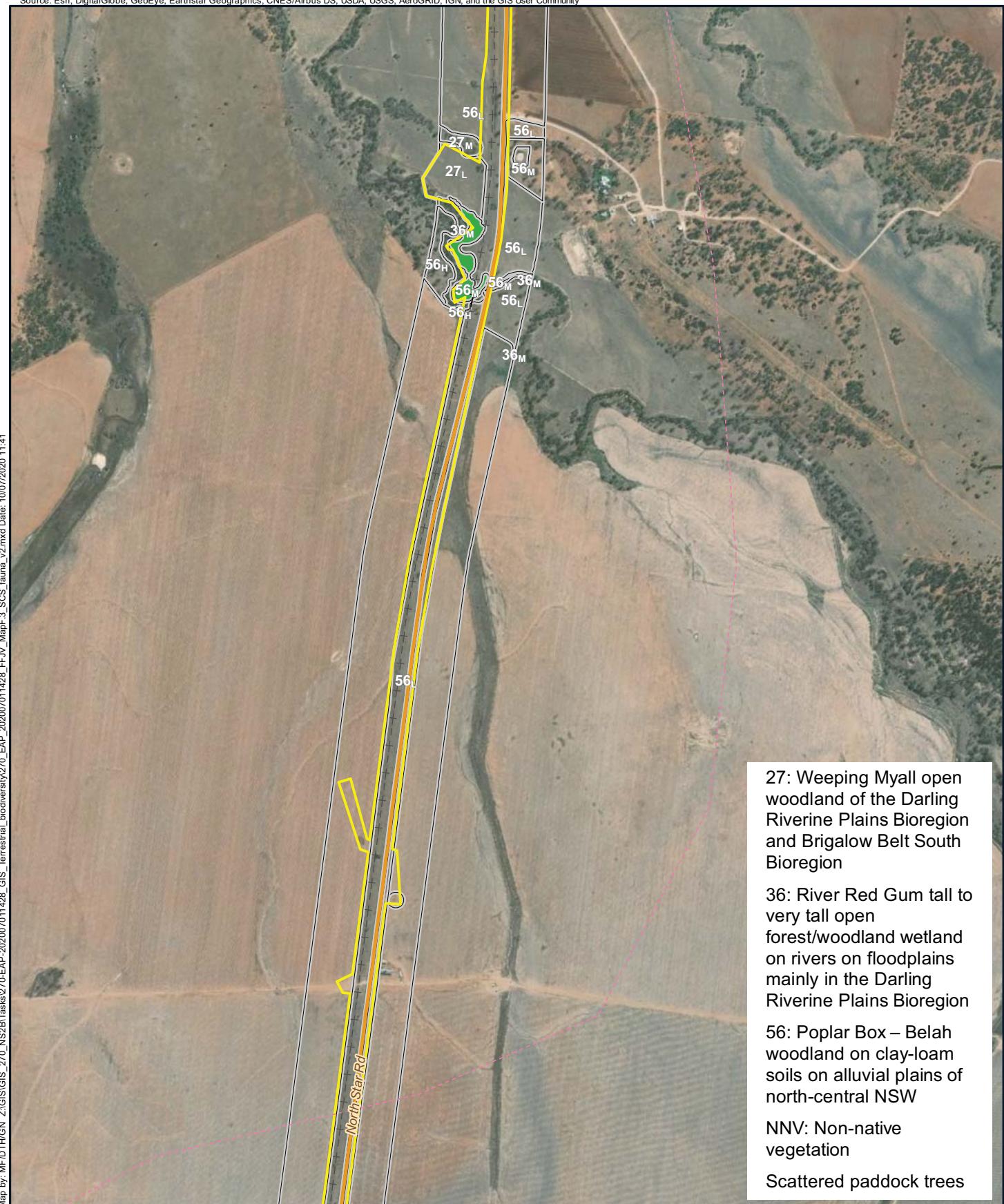
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3ap: Koala
(Phascolarctos cinereus)



Legend

- Existing rail (operational)
- - - Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- - - IBRA 7 sub-region boundary
- Subject land



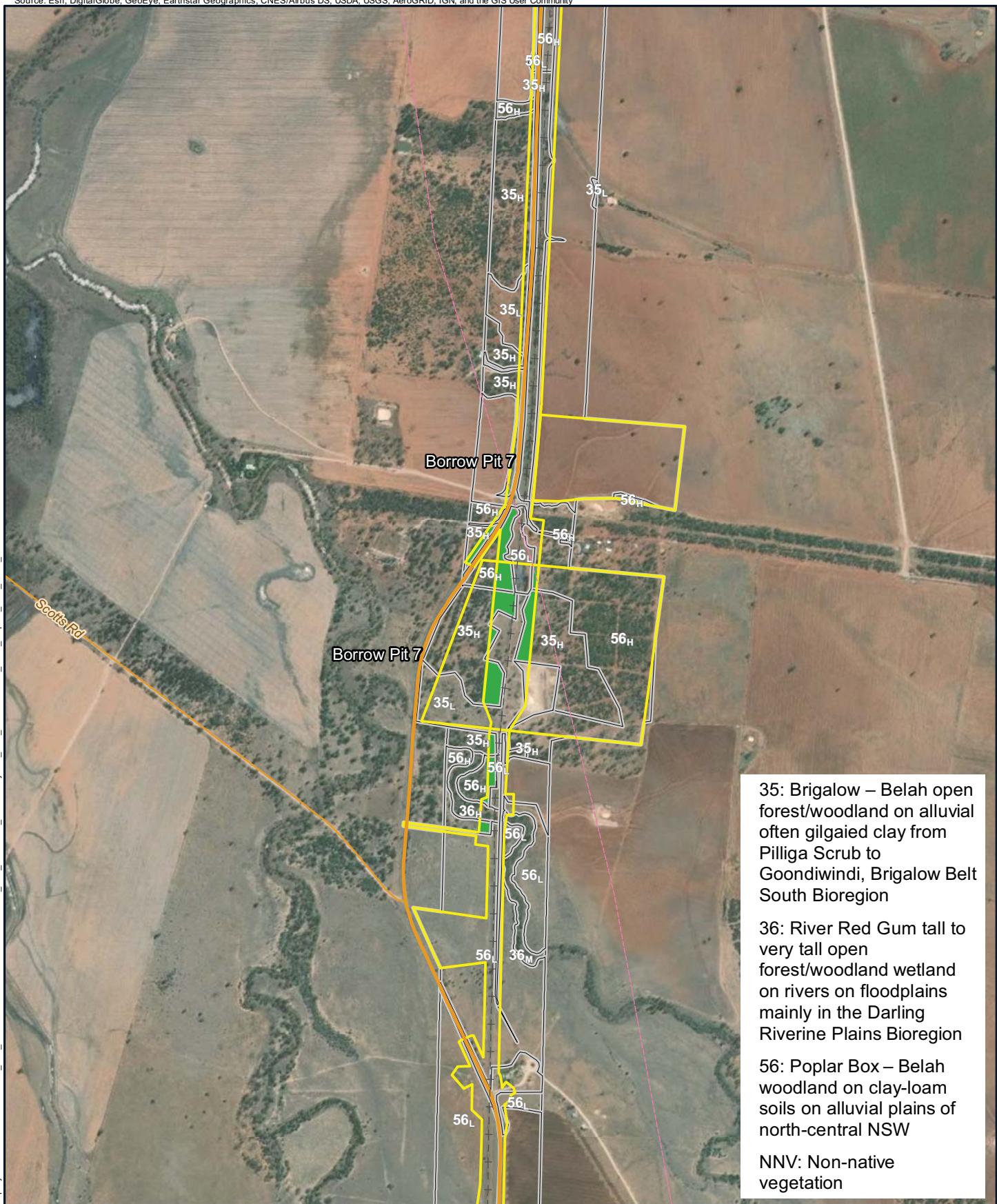
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3aq: Masked owl
(Tyto novaehollandiae)

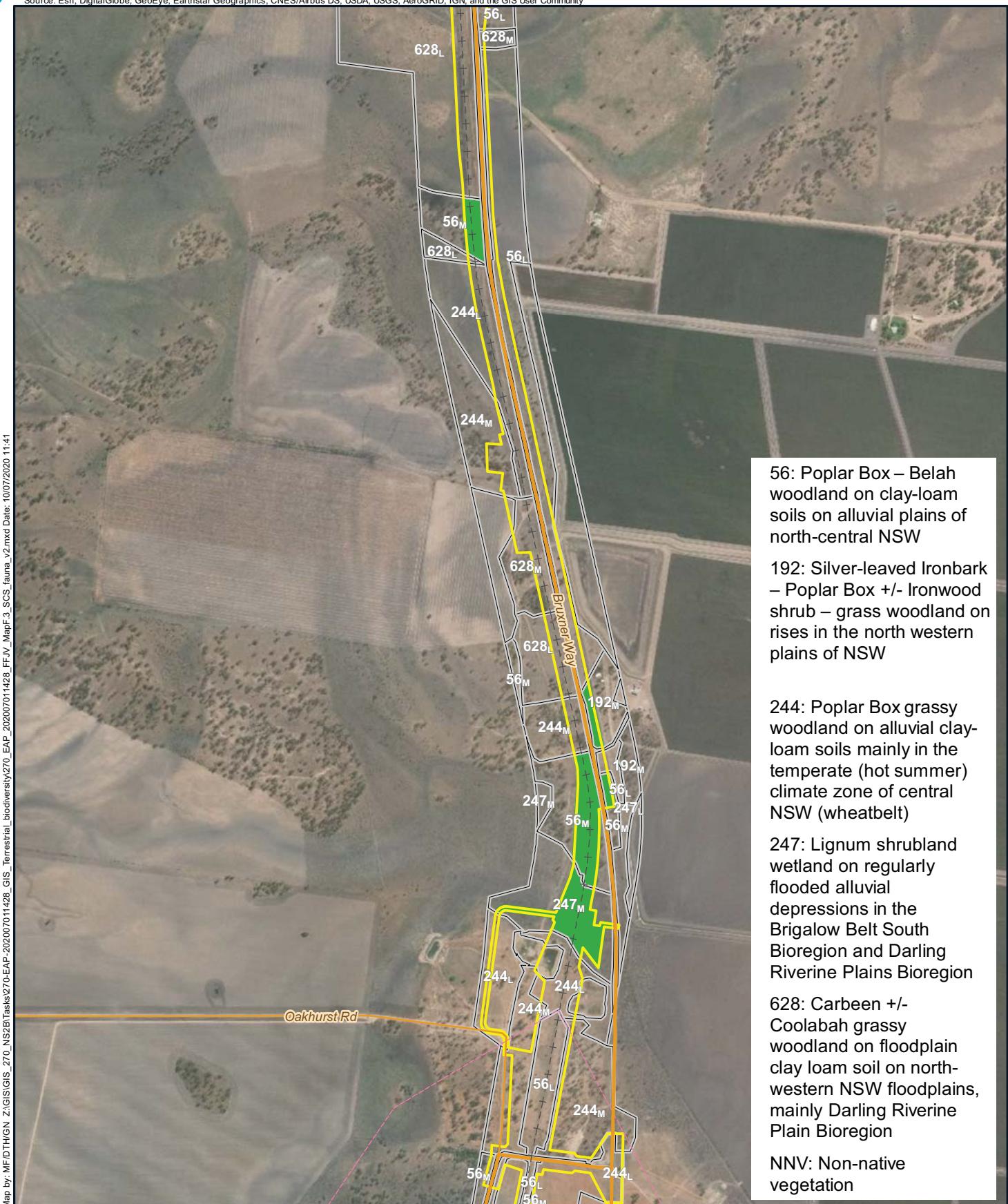


Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
 0 100 200 300 400 500 m



Legend

- + - Existing rail (non-operational)
- Major roads
- Minor roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



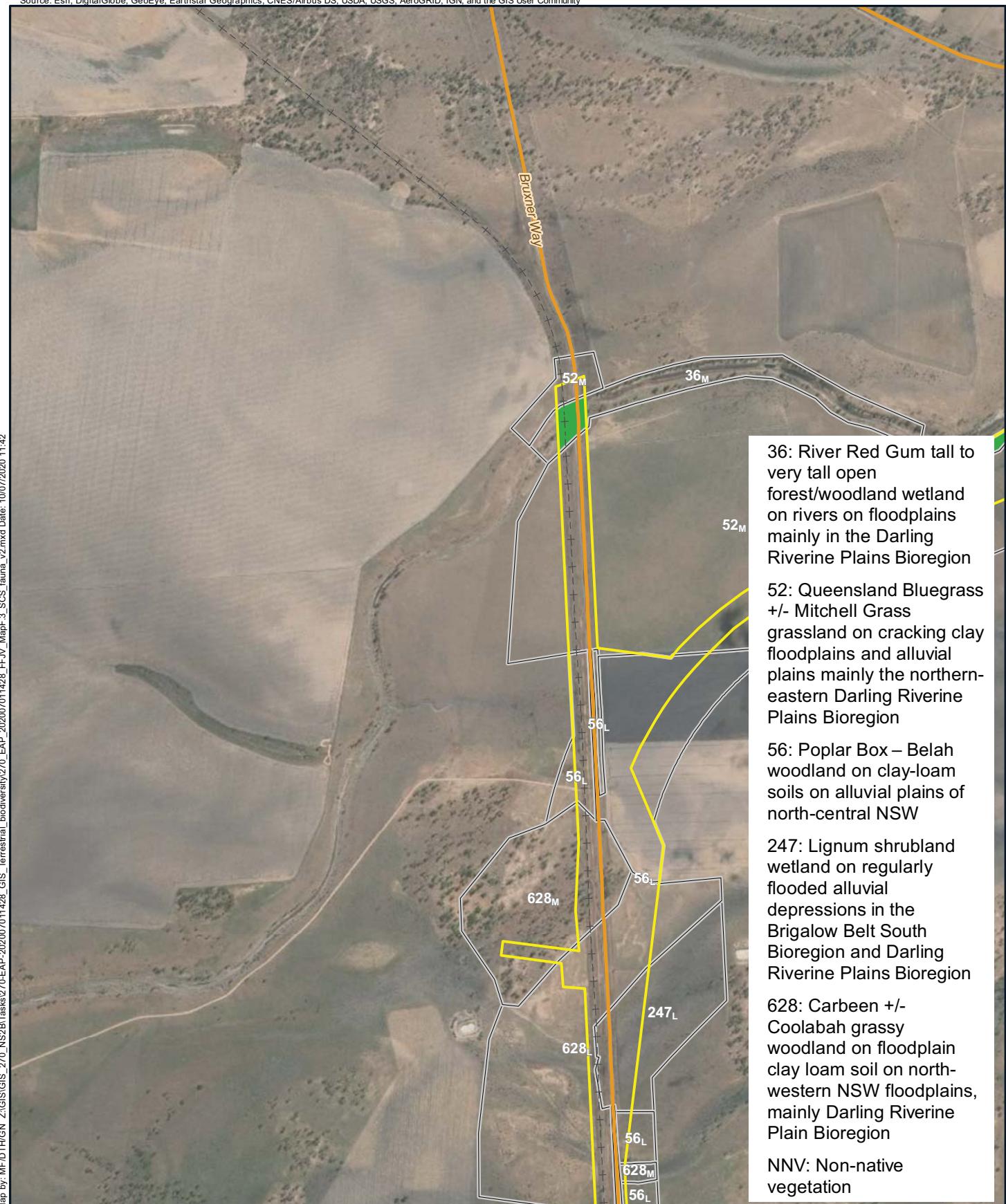
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3as: Masked owl
(Tyto novaehollandiae)



Legend

- + - Existing rail (non-operational)
- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



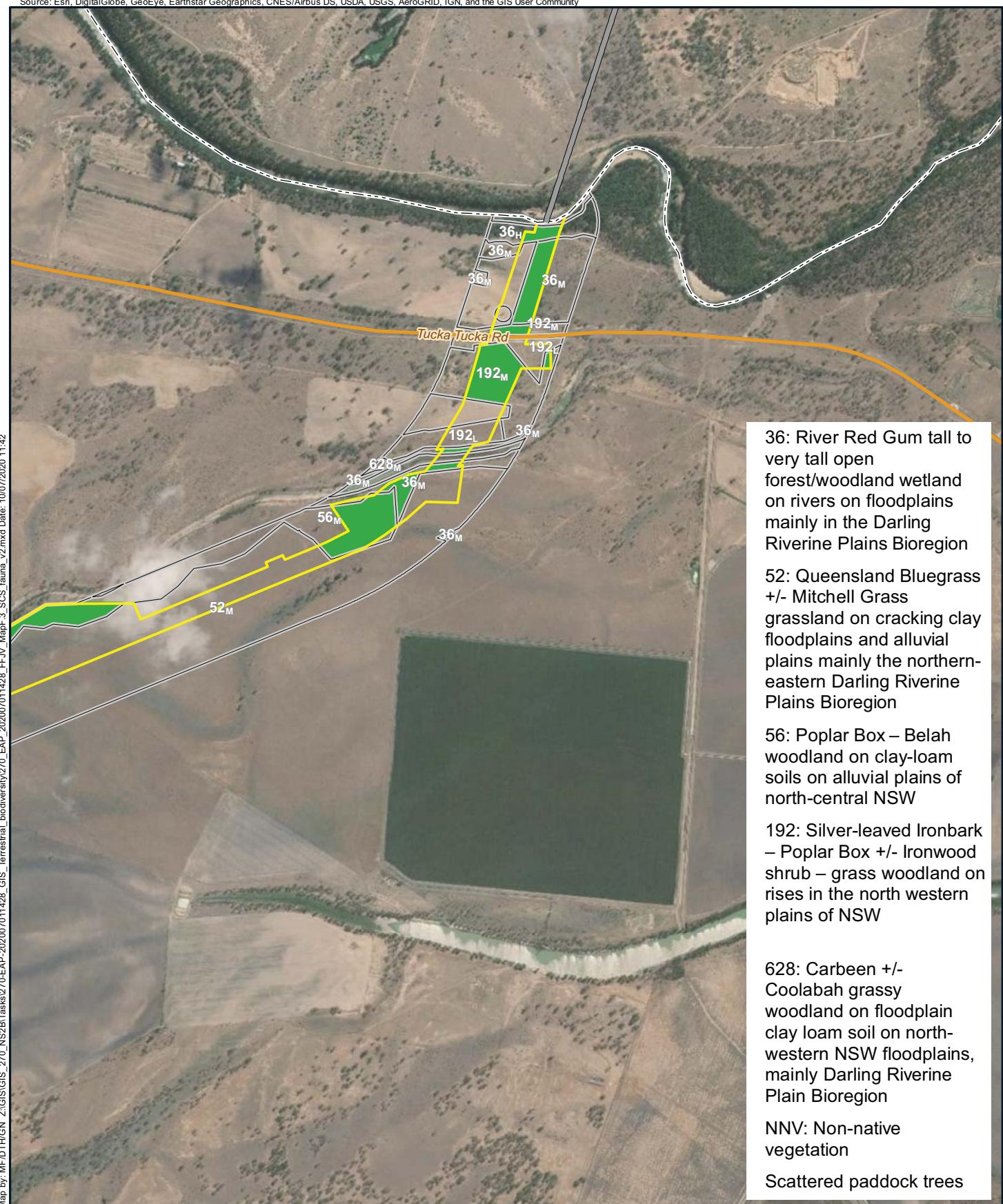
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3at: Masked owl
(Tyto novaehollandiae)



Legend

- (NSW/QLD border to Gowrie alignment)
- Major roads
- - - NSW/QLD border
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- IBRA 7 sub-region boundary
- Subject land



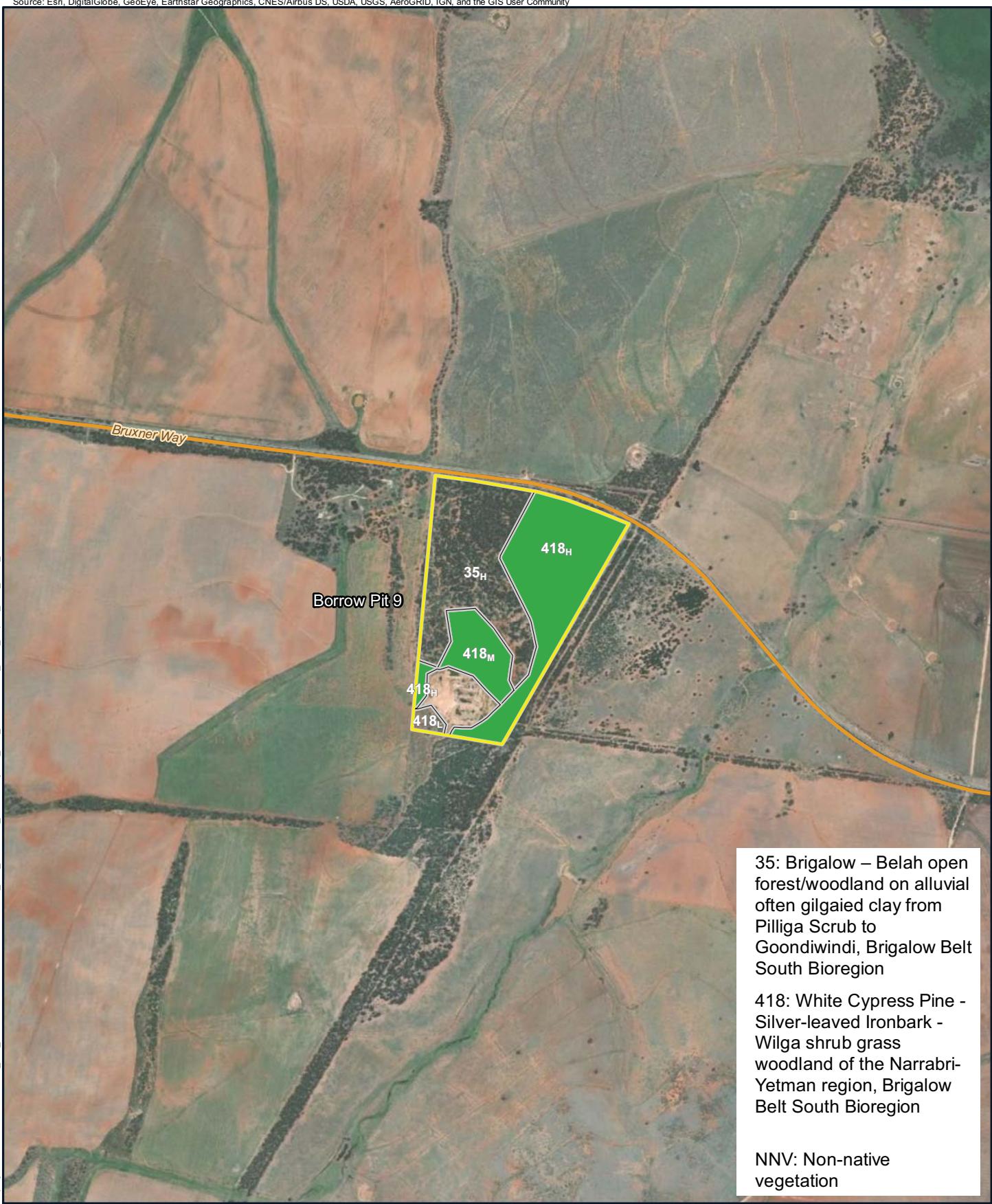
A4 scale: 1:20,000
 0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
 Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3au: Masked owl
(Tyto novaehollandiae)



Legend

- Major roads
- Species-credit species
- Fieldwork PCT (to fieldwork extent)
- (---) IBRA 7 sub-region boundary
- Subject land



A4 scale: 1:20,000
0 100 200 300 400 500 m



Date: 10/07/2020 Version: 2
Coordinate system: MGA56

North Star to QLD/NSW Border

Map F.3av: Border thick-tailed gecko
(*Uvidicolus sphyurus*)



A4 scale: 1:20,000
0 100 200 300 400 500 m

APPENDIX

B

INLAND
RAIL

Biodiversity Technical Report

Appendix G Biodiversity Assessment Method Credit Reports

NORTH STAR TO NSW/QUEENSLAND BORDER ENVIRONMENTAL IMPACT STATEMENT



AR^{TC}

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/19/00016964	Inland Rail NS2B Borrow Pit 5	30/10/2019
Assessor Name	Report Created	BAM Data version *
	15/11/2019	16
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Silver-leaved Ironbark - Poplar Box +/- Ironwood shrub - grass woodland on rises in the north-western plains of NSW								
1	192_High		45.6	10.0	0.25 High Sensitivity to Potential Gain	1.50		172
2	192_Med		32.8	7.6	0.25 High Sensitivity to Potential Gain	1.50		94



BAM Credit Summary Report

3 192_Low	29.0	2.5	0.25	High Sensitivity to Potential Gain	1.50		27
						Subtotal	293
						Total	293

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
192_High		45.6	10.04	0.25	2	False
192_Med		32.8	7.36	0.25	2	False
						Subtotal
						350
<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>						
192_High		45.6	10.04	0.25	2	False
192_Med		32.8	7.63	0.25	2	False
192_Low		29.0	2.45	0.25	2	False
						Subtotal
						389
<i>Polygala linariifolia / Native Milkwort (Flora)</i>						
192_High		45.6	10.04	0.25	2	False
192_Med		32.8	7.63	0.25	2	False
192_Low		29.0	2.45	0.25	2	False
						Subtotal
						389



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/19/00016970	Inland Rail Borrow Pit 7	30/10/2019
Assessor Name	Report Created	BAM Data version *
	07/11/2019	16
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_High		58.3	17.5	0.25 High Sensitivity to Potential Gain	2.00	TRUE	511
2	35_Low		25.5	7.7	0.25 High Sensitivity to Potential Gain	2.00	TRUE	99
Subtotal								610



BAM Credit Summary Report

Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW

3	56_High	36.6	21.3	0.25	High Sensitivity to Potential Gain	2.00		390
4	56_Low	28.3	0.8	0.25	High Sensitivity to Potential Gain	2.00		11
							Subtotal	401
							Total	1011

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
56_High		36.6	21.27	0.25	2 False	390
						Subtotal
390						
<i>Cyperus conicus / Cyperus conicus (Flora)</i>						
56_High		36.6	21.27	0.25	2 False	390
56_Low		28.3	0.77	0.25	2 False	11
						Subtotal
401						
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_High		58.3	17.54	0.25	2 False	511
35_Low		25.5	7.72	0.25	2 False	99
						Subtotal
610						
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
35_High		58.3	17.54	0.25	2 False	511



BAM Credit Summary Report

35_Low	25.5	7.72	0.25	2	False	99
56_High	36.6	21.27	0.25	2	False	390
56_Low	28.3	0.77	0.25	2	False	11
						Subtotal 1011
<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
35_High	58.3	17.54	0.25	2	False	511
35_Low	25.5	7.72	0.25	2	False	99
56_High	36.6	21.27	0.25	2	False	390
56_Low	28.3	0.77	0.25	2	False	11
						Subtotal 1011
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
35_High	58.3	17.54	0.25	2	False	511
35_Low	25.5	7.72	0.25	2	False	99
56_High	36.6	21.27	0.25	2	False	390
56_Low	28.3	0.77	0.25	2	False	11
						Subtotal 1011
<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>						
56_High	36.6	21.27	0.25	2	False	390
56_Low	28.3	0.77	0.25	2	False	11
						Subtotal 401



BAM Credit Summary Report

Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)

35_High	58.3	17.54	0.25	3	True	767
						Subtotal 767

Swainsona murrayana / Slender Darling Pea (Flora)

35_High	58.3	17.54	0.25	2	False	511
35_Low	25.5	7.72	0.25	2	False	99
						Subtotal 610



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/19/00016969	Inland Rail Borrow Pit 8	30/10/2019
Assessor Name	Report Created	BAM Data version *
	15/11/2019	16
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW								
1	56_Medium		74.4	21.1	0.25 High Sensitivity to Potential Gain	2.00		787
							Subtotal	787
							Total	787



BAM Credit Summary Report

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Cyperus conicus / Cyperus conicus (Flora)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Diuris tricolor / Pine Donkey Orchid (Flora)</i>						
56_Medium	74.4	21.14	0.25	1.5	False	590
						Subtotal 590
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787



BAM Credit Summary Report

<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Swainsona sericea / Silky Swainson-pea (Flora)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787
<i>Tyto novaehollandiae / Masked Owl (Fauna)</i>						
56_Medium	74.4	21.14	0.25	2	False	787
						Subtotal 787



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00016941	Inland Rail Borrow Pit 9	26/11/2019
Assessor Name	Report Created	BAM Data version *
	21/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_High		76.3	21.8	0.25 High Sensitivity to Potential Gain	2.00	TRUE	834
Subtotal								834



BAM Credit Summary Report

White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, Brigalow Belt South Bioregion

2 418_Med	39.4	6.1	0.25	High Sensitivity to Potential Gain	1.50		90
3 418_High	63.3	21.2	0.25	High Sensitivity to Potential Gain	1.50		503
4 418_Low	5.9	1.0	0.25	High Sensitivity to Potential Gain	1.50		0
						Subtotal	593
						Total	1427

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SALL	Species credits
<i>Amalosia rhombifer / Zigzag Velvet Gecko (Fauna)</i>						
418_Med	39.4	6.07	0.25		2 False	120
418_High	63.3	21.19	0.25		2 False	670
						Subtotal
						790
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
418_Med	39.4	6.07	0.25		2 False	120
418_High	63.3	21.19	0.25		2 False	670
						Subtotal
						790
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_High	76.3	21.84	0.25		2 False	834
						Subtotal
						834



BAM Credit Summary Report

Dichanthium setosum / Bluegrass (Flora)						
35_High	76.3	21.84	0.25	2	False	834
						Subtotal 834
Digitaria porrecta / Finger Panic Grass (Flora)						
35_High	76.3	21.84	0.25	2	False	834
						Subtotal 834
Homopholis belsonii / Belson's Panic (Flora)						
35_High	76.3	21.84	0.25	2	False	834
						Subtotal 834
Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)						
418_Med	39.4	6.07	0.25	2	False	120
418_High	63.3	21.09	0.25	2	False	667
						Subtotal 787
Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)						
35_High	76.3	21.84	0.25	3	True	1250
						Subtotal 1250
Polygala linariifolia / Native Milkwort (Flora)						
418_Med	39.4	6.07	0.25	2	False	120
418_High	63.3	21.19	0.25	2	False	670
						Subtotal 790



BAM Credit Summary Report

Pomaderris queenslandica / Scant Pomaderris (Flora)						
418_Med	39.4	6.07	0.25		2 False	120
418_High	63.3	21.19	0.25		2 False	670
						Subtotal 790
Swainsona murrayana / Slender Darling Pea (Flora)						
35_High	76.3	21.84	0.25		2 False	834
						Subtotal 834
Swainsona sericea / Silky Swainson-pea (Flora)						
418_Med	39.4	6.07	0.25		2 False	120
418_High	63.3	21.19	0.25		2 False	670
						Subtotal 790
Tylophora linearis / Tylophora linearis (Flora)						
418_Med	39.4	6.07	0.25		2 False	120
418_High	63.3	21.19	0.25		2 False	670
						Subtotal 790
Tyto novaehollandiae / Masked Owl (Fauna)						
35_High	76.3	21.84	0.25		2 False	834
418_Med	39.4	6.07	0.25		2 False	120
418_High	63.3	21.19	0.25		2 False	670
						Subtotal 1624



BAM Credit Summary Report

<i>Uvidicolus sphyurus / Border Thick-tailed Gecko (Fauna)</i>						
418_Med	39.4	6.07	0.25	2	False	120
418_High	63.3	21.19	0.25	2	False	670
Subtotal						790



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00016977	Inland Rail NS2B Borrow Pit 11	26/11/2019
Assessor Name	Report Created	BAM Data version *
	21/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_High		54.8	18.5	0.25 High Sensitivity to Potential Gain	2.00 TRUE		506



BAM Credit Summary Report

2	35_Low	31.3	0.9	0.25	High Sensitivity to Potential Gain	2.00	TRUE	14
							Subtotal	520
							Total	520

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_High		54.8	18.49	0.25	2	False
35_Low		31.3	0.91	0.25	2	False
						Subtotal
						520
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
35_High		54.8	18.49	0.25	2	False
35_Low		31.3	0.91	0.25	2	False
						Subtotal
						520
<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
35_High		54.8	18.41	0.25	2	False
35_Low		31.3	0.91	0.25	2	False
						Subtotal
						518
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
35_High		54.8	18.41	0.25	2	False
35_Low		31.3	0.91	0.25	2	False



BAM Credit Summary Report

						Subtotal	518
<i>Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)</i>							
35_High		54.8	18.41	0.25	3 True		756
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>							
35_High		54.8	18.41	0.25	2 False		504
35_Low		31.3	0.91	0.25	2 False		14
						Subtotal	518



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/19/00016958	Inland Rail NS2B Borrow Pit 13	30/10/2019
Assessor Name	Report Created	BAM Data version *
	15/11/2019	16
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Poplar Box - White Cypress Pine - Wilga - Ironwood shrubby woodland on red sandy-loam soils in the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion								
1	98_High		54.4	1.5	0.25 High Sensitivity to Potential Gain		1.50	30



BAM Credit Summary Report

2	98_Low	17.4	1.0	0.25	High Sensitivity to Potential Gain	1.50		6
							Subtotal	36
							Total	36

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
98_High		54.4	1.46	0.25	2	False
98_Low		17.4	0.98	0.25	2	False
						Subtotal
						49



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00016988	Inland Rail Borrow Pit 25	26/11/2019
Assessor Name	Report Created	BAM Data version *
	21/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_High		30.6	2.4	0.25 High Sensitivity to Potential Gain	2.00	TRUE	36
Subtotal								36



BAM Credit Summary Report

White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, Brigalow Belt South Bioregion

2	418_Med	42.3	1.5	0.25	High Sensitivity to Potential Gain	1.50		23
3	418_Low	17.2	2.1	0.25	High Sensitivity to Potential Gain	1.50		13
							Subtotal	36
							Total	72

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Amalosia rhombifer / Zigzag Velvet Gecko (Fauna)</i>						
418_Med		42.3	1.46	0.25	2	False
418_Low		17.2	2.08	0.25	2	False
						Subtotal
						49
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_High		30.6	2.38	0.25	2	False
						Subtotal
						36
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
35_High		30.6	2.38	0.25	2	False
418_Med		42.3	1.46	0.25	2	False
418_Low		17.2	2.08	0.25	2	False
						Subtotal
						85



BAM Credit Summary Report

<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
35_High	30.6	2.38	0.25	2	False	36
						Subtotal 36
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
35_High	30.6	2.38	0.25	2	False	36
						Subtotal 36
<i>Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)</i>						
35_High	30.6	2.38	0.25	3	True	55
						Subtotal 55
<i>Polygala linariifolia / Native Milkwort (Flora)</i>						
418_Med	42.3	1.46	0.25	2	False	31
418_Low	17.2	2.08	0.25	2	False	18
						Subtotal 49
<i>Pomaderris queenslandica / Scant Pomaderris (Flora)</i>						
418_Med	42.3	1.46	0.25	2	False	31
418_Low	17.2	2.08	0.25	2	False	18
						Subtotal 49
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
35_High	30.6	2.38	0.25	2	False	36
418_Med	42.3	1.46	0.25	2	False	31



BAM Credit Summary Report

418_Low	17.2	2.08	0.25	2	False	18
						Subtotal 85
<i>Swainsona sericea / Silky Swainson-pea (Flora)</i>						
418_Med	42.3	1.46	0.25	2	False	31
418_Low	17.2	2.08	0.25	2	False	18
						Subtotal 49
<i>Tylophora linearis / Tylophora linearis (Flora)</i>						
418_Med	42.3	1.46	0.25	2	False	31
418_Low	17.2	2.08	0.25	2	False	18
						Subtotal 49
<i>Uvidicolus sphyurus / Border Thick-tailed Gecko (Fauna)</i>						
418_Med	42.3	1.46	0.25	2	False	31
418_Low	17.2	2.08	0.25	2	False	18
						Subtotal 49



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/19/00016959	Inland Rail NS2B Borrow Pit 26	30/10/2019
Assessor Name	Report Created	BAM Data version *
	07/11/2019	16
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAI	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_High		61.5	1.1	0.25 High Sensitivity to Potential Gain	2.00	TRUE	32
2	35_Med		51.1	3.3	0.25 High Sensitivity to Potential Gain	2.00	TRUE	84



BAM Credit Summary Report

3	35_Low	27.8	0.9	0.25	High Sensitivity to Potential Gain	2.00	TRUE	13
							Subtotal	129
							Total	129

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_High		61.5	1.05	0.25	2 False	32
35_Med		51.1	3.27	0.25	2 False	84
35_Low		27.8	0.91	0.25	2 False	13
						Subtotal
						129
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
35_High		61.5	1.05	0.25	2 False	32
35_Med		51.1	3.27	0.25	2 False	84
35_Low		27.8	0.91	0.25	2 False	13
						Subtotal
						129
<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
35_High		61.5	1.05	0.25	2 False	32
35_Med		51.1	3.27	0.25	2 False	84
35_Low		27.8	0.91	0.25	2 False	13
						Subtotal
						129



BAM Credit Summary Report

<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
35_High	61.5		1.05	0.25		2 False 32
35_Med	51.1		3.27	0.25		2 False 84
35_Low	27.8		0.91	0.25		2 False 13
						Subtotal 129
<i>Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)</i>						
35_High	61.5		1.05	0.25		3 True 48
35_Med	51.1		3.27	0.25		3 True 125
						Subtotal 173
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
35_High	61.5		1.05	0.25		2 False 32
35_Med	51.1		3.27	0.25		2 False 84
35_Low	27.8		0.91	0.25		2 False 13
						Subtotal 129



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS18042/19/00014150	DRP CB PCT 192 Paddock Trees	27/09/2019
Assessor Name	Report Created	BAM Data version *
Sarah Glauert	15/11/2019	15
Assessor Number	BAM Case Status	Date Finalised
BAAS17097	Open	To be finalised
Assessment Revision	Assessment Type	
0	Paddock Trees	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Paddock Trees Credit Requirement

Class	Contains hollows	Number of trees	Ecosystem credits
36-River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion			
3	True	1.0	1
			1
			1



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00014394	FFJV Inland Rail - CB	26/11/2019
Assessor Name	Report Created	BAM Data version *
Sarah Glauert	21/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
BAAS17097	Open	To be finalised
Assessment Revision	Assessment Type	
4	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAll	Ecosystem credits
Carbeen +/- Coolabah grassy woodland on floodplain clay loam soil on north-western NSW floodplains, mainly Darling Riverine Plain Bioregion								
11	628_CB_Medium		86.9	11.7	0.25 High Sensitivity to Potential Gain	2.00		509
13	628_CB_Low		21.2	21.1	0.25 High Sensitivity to Potential Gain	2.00		223
Subtotal								732



BAM Credit Summary Report

Lignum shrubland wetland on regularly flooded alluvial depressions in the Brigalow Belt South Bioregion and Darling Riverine Plains Bioregion						
1	247_CB_Medium	39.8	4.4	0.25	High Sensitivity to Potential Gain	1.75
12	247_CB_Low	40.2	6.9	0.25	High Sensitivity to Potential Gain	1.75
						Subtotal
						197
Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW						
5	56_CB_Low	41.0	14.3	0.25	High Sensitivity to Potential Gain	2.00
6	56_CB_Medium	69.5	14.7	0.25	High Sensitivity to Potential Gain	2.00
						Subtotal
						802
Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).						
9	244_CB_Low	37.3	9.5	0.25	High Sensitivity to Potential Gain	2.00
10	244_CB_Medium	64.6	3.6	0.25	High Sensitivity to Potential Gain	2.00
						Subtotal
						292
Queensland Bluegrass +/- Mitchell Grass grassland on cracking clay floodplains and alluvial plains mainly the northern-eastern Darling Riverine Plains Bioregion						
2	52_CB-Medium	84.3	42.0	0.25	High Sensitivity to Potential Gain	2.00
						Subtotal
						1768
River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion						
3	36_CB-Medium	69.5	5.6	0.25	High Sensitivity to Potential Gain	1.75
4	36_CB_High	86.5	0.7	0.25	High Sensitivity to Potential Gain	1.75
						Subtotal
						198



BAM Credit Summary Report

Silver-leaved Ironbark - Poplar Box +/- Ironwood shrub - grass woodland on rises in the north-western plains of NSW

7	192_CB_Low	25.0	3.0	0.25	High Sensitivity to Potential Gain	1.50		28
8	192_CB_Medium	45.0	5.3	0.25	High Sensitivity to Potential Gain	1.50		89
							Subtotal	117
							Total	4106

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
247_CB_Medium		39.8	4.35	0.25	2 False	87
36_CB-Medium		69.5	5.16	0.25	2 False	179
36_CB_High		86.5	0.72	0.25	2 False	31
56_CB_Medium		69.5	14.65	0.25	2 False	509
192_CB_Medium		45.0	5.28	0.25	2 False	119
244_CB_Medium		64.6	3.57	0.25	2 False	115
628_CB_Medium		86.9	11.72	0.25	2 False	509
					Subtotal	1549
<i>Cyperus conicus / Cyperus conicus (Flora)</i>						
56_CB_Low		41.0	14.31	0.25	2 False	293
56_CB_Medium		69.5	14.65	0.25	2 False	509
					Subtotal	802



BAM Credit Summary Report

Desmodium campylocaulon / Creeping Tick-trefoil (Flora)

52_CB-Medium	84.3	41.95	0.25	2	False	1768
						Subtotal 1768

Digitaria porrecta / Finger Panic Grass (Flora)

52_CB-Medium	84.3	41.95	0.25	2	False	1768
56_CB_Low	41.0	14.31	0.25	2	False	293
56_CB_Medium	69.5	14.65	0.25	2	False	509
244_CB_Low	37.3	9.49	0.25	2	False	177
244_CB_Medium	64.6	3.57	0.25	2	False	115
628_CB_Medium	86.9	11.72	0.25	2	False	509
628_CB_Low	21.2	21.06	0.25	2	False	223
						Subtotal 3594

Homopholis belsonii / Belson's Panic (Flora)

52_CB-Medium	84.3	41.95	0.25	2	False	1768
56_CB_Low	41.0	14.31	0.25	2	False	293
56_CB_Medium	69.5	14.65	0.25	2	False	509
244_CB_Low	37.3	9.49	0.25	2	False	177
244_CB_Medium	64.6	3.57	0.25	2	False	115
						Subtotal 2862



BAM Credit Summary Report

<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>						
247_CB_Medium	39.8	4.35	0.25		2 False	87
52_CB-Medium	84.3	41.95	0.25		2 False	1768
36_CB-Medium	69.5	5.16	0.25		2 False	179
36_CB_High	86.5	0.72	0.25		2 False	31
56_CB_Medium	69.5	14.65	0.25		2 False	509
192_CB_Medium	45.0	5.28	0.25		2 False	119
244_CB_Medium	64.6	3.57	0.25		2 False	115
					Subtotal	2808
<i>Lepidium monoplocoides / Winged Peppercress (Flora)</i>						
247_CB_Medium	39.8	4.35	0.25		2 False	87
52_CB-Medium	84.3	41.95	0.25		2 False	1768
56_CB_Low	41.0	14.31	0.25		2 False	293
56_CB_Medium	69.5	14.65	0.25		2 False	509
244_CB_Low	37.3	9.49	0.25		2 False	177
244_CB_Medium	64.6	3.57	0.25		2 False	115
628_CB_Medium	86.9	11.72	0.25		2 False	509
247_CB_Low	40.2	6.89	0.25		2 False	138
628_CB_Low	21.2	21.06	0.25		2 False	223
					Subtotal	3819



BAM Credit Summary Report

Petaurus norfolcensis / Squirrel Glider (Fauna)						
36_CB_High	86.5	0.72	0.25	2	False	31
						Subtotal 31
Phascolarctos cinereus / Koala (Fauna)						
36_CB_High	86.5	0.72	0.25	2	False	31
						Subtotal 31
Phyllanthus maderaspatensis / Phyllanthus maderaspatensis (Flora)						
247_CB_Medium	39.8	4.35	0.25	2	False	87
36_CB-Medium	69.5	5.16	0.25	2	False	179
36_CB_High	86.5	0.72	0.25	2	False	31
247_CB_Low	40.2	6.89	0.25	2	False	138
						Subtotal 435
Platyzoma microphyllum / Braid Fern (Flora)						
247_CB_Medium	39.8	4.35	0.25	3	True	130
247_CB_Low	40.2	6.89	0.25	3	True	208
						Subtotal 338
Polygala linariifolia / Native Milkwort (Flora)						
192_CB_Low	25.0	2.95	0.25	2	False	37
192_CB_Medium	45.0	5.28	0.25	2	False	119
						Subtotal 156



BAM Credit Summary Report

<i>Setirostris eleryi / Bristle-faced Free-tailed Bat (Fauna)</i>						
36_CB-Medium	69.5	5.16	0.25		2 False	179
36_CB_High	86.5	0.72	0.25		2 False	31
56_CB_Medium	69.5	14.65	0.25		2 False	509
192_CB_Medium	45.0	5.28	0.25		2 False	119
244_CB_Medium	64.6	3.57	0.25		2 False	115
628_CB_Medium	86.9	11.72	0.25		2 False	509
					Subtotal	1462
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
247_CB_Medium	39.8	4.35	0.25		2 False	87
52_CB-Medium	84.3	41.95	0.25		2 False	1768
56_CB_Low	41.0	14.31	0.25		2 False	293
56_CB_Medium	69.5	14.65	0.25		2 False	509
244_CB_Low	37.3	9.49	0.25		2 False	177
244_CB_Medium	64.6	3.57	0.25		2 False	115
628_CB_Medium	86.9	11.72	0.25		2 False	509
247_CB_Low	40.2	6.89	0.25		2 False	138
628_CB_Low	21.2	21.06	0.25		2 False	223
					Subtotal	3819
<i>Tyto novaehollandiae / Masked Owl (Fauna)</i>						
247_CB_Medium	39.8	4.35	0.25		2 False	87



BAM Credit Summary Report

36_CB-Medium	69.5	5.16	0.25	2	False	179
36_CB_High	86.5	0.72	0.25	2	False	31
56_CB_Medium	69.5	14.65	0.25	2	False	509
192_CB_Medium	45.0	5.28	0.25	2	False	119
244_CB_Medium	64.6	3.57	0.25	2	False	115
Subtotal						1040



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00016992	Inland Rail Borrow Pit FFJV Site 1	26/11/2019
Assessor Name	Report Created	BAM Data version *
	21/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAI	Ecosystem credits
Mock Olive - Wilga - Peach Bush - Carissa semi-evergreen vine thicket (dry rainforest) mainly on basalt soils in the Brigalow Belt South Bioregion								
1	147_High		51.4	1.5	0.25 High Sensitivity to Potential Gain	2.00		38



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2	147_Med	56.1	3.1	0.25	High Sensitivity to Potential Gain	2.00		88
							Subtotal	126
							Total	126

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
147_High		51.4	1.46	0.25	2	False
147_Med		56.1	3.13	0.25	2	False
						Subtotal
						126



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/19/00016994	Inland Rail Borrow Pit FFJV Site 2	30/10/2019
Assessor Name	Report Created	BAM Data version *
	15/11/2019	16
Assessor Number	BAM Case Status	Date Finalised
	Open	To be finalised
Assessment Revision	Assessment Type	
1	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAI	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_Low		28.4	3.2	0.25 High Sensitivity to Potential Gain	2.00 TRUE		46
Subtotal								46

Assessment Id

00013930/BAAS17097/19/00016994

Proposal Name

Inland Rail Borrow Pit FFJV Site 2

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BAM Credit Summary Report

White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, Brigalow Belt South Bioregion

2	418_High	35.7	8.2	0.25	High Sensitivity to Potential Gain	1.50		109
3	418_Medium	25.0	7.3	0.25	High Sensitivity to Potential Gain	1.50		68
							Subtotal	177
							Total	223

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
418_High		35.7	8.19	0.25	2	False
418_Medium		25.0	7.3	0.25	2	False
						Subtotal
						237
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_Low		28.4	3.24	0.25	2	False
						Subtotal
						46
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
35_Low		28.4	3.24	0.25	2	False
418_High		35.7	8.19	0.25	2	False
418_Medium		25.0	7.3	0.25	2	False
						Subtotal
						283



BAM Credit Summary Report

<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
35_Low	28.4	3.24	0.25	2	False	46
						Subtotal 46
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
35_Low	28.4	3.24	0.25	2	False	46
						Subtotal 46
<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>						
418_High	35.7	8.19	0.25	2	False	146
418_Medium	25.0	7.3	0.25	2	False	91
						Subtotal 237
<i>Polygala linariifolia / Native Milkwort (Flora)</i>						
418_High	35.7	8.19	0.25	2	False	146
418_Medium	25.0	7.3	0.25	2	False	91
						Subtotal 237
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
35_Low	28.4	3.24	0.25	2	False	46
						Subtotal 46
<i>Tylophora linearis / Tylophora linearis (Flora)</i>						
418_High	35.7	8.19	0.25	2	False	146
418_Medium	25.0	7.3	0.25	2	False	91



BAM Credit Summary Report

					Subtotal	237
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Assessment Id

00013930/BAAS17097/19/00016994

Proposal Name

Inland Rail Borrow Pit FFJV Site 2

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BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS18042/19/00014149	BBS_NB_PCT 35 Paddock Trees	27/09/2019
Assessor Name	Report Created	BAM Data version *
Sarah Glauert	15/11/2019	15
Assessor Number	BAM Case Status	Date Finalised
BAAS17097	Open	To be finalised
Assessment Revision	Assessment Type	
0	Paddock Trees	

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Paddock Trees Credit Requirement

Class	Contains hollows	Number of trees	Ecosystem credits
56-Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW			
3	True	1.0	1
			1
			1



BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00014244	Inland Rail NS2B - Northern Bassalts	26/11/2019
Assessor Name	Report Created	BAM Data version *
Sarah Glauert	24/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
BAAS17097	Open	To be finalised
Assessment Revision	Assessment Type	
3	Major Projects	

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAI	Ecosystem credits
Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.								
4	55_NB_High		26.0	0.5	0.25 High Sensitivity to Potential Gain	2.00		7
Subtotal								7

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Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion

2	35_NB_Low	13.4	4.9	0.25	High Sensitivity to Potential Gain	2.00	TRUE	0
3	35_NB_High	85.2	10.0	0.25	High Sensitivity to Potential Gain	2.00	TRUE	425
							Subtotal	425

Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW

5	56_NB_Low	19.6	38.4	0.25	High Sensitivity to Potential Gain	2.00		377
6	56_NB_Medium	49.3	12.3	0.25	High Sensitivity to Potential Gain	2.00		304
7	56_NB_High	62.1	27.9	0.25	High Sensitivity to Potential Gain	2.00		866
							Subtotal	1547

Poplar Box - White Cypress Pine - Wilga - Ironwood shrubby woodland on red sandy-loam soils in the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion

10	98_NB_High	67.7	1.8	0.25	High Sensitivity to Potential Gain	1.50		45
							Subtotal	45

Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

8	244_NB_Medium	51.0	4.7	0.25	High Sensitivity to Potential Gain	2.00		120
9	244_NB_High	46.1	10.1	0.25	High Sensitivity to Potential Gain	2.00		234
11	244_NB_Low	18.3	1.1	0.25	High Sensitivity to Potential Gain	2.00		10
							Subtotal	364



BAM Credit Summary Report

Shallow freshwater wetland sedgeland in depressions on floodplains on inland alluvial plains and floodplains

1	53_NB_Medium	79.5	5.8	0.25	High Sensitivity to Potential Gain	1.75		202
							Subtotal	202
							Total	2590

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
55_NB_High		26.0	0.52	0.25	2 False	7
56_NB_Medium		49.3	12.31	0.25	2 False	304
56_NB_High		62.1	27.87	0.25	2 False	866
244_NB_Medium		51.0	4.71	0.25	2 False	120
244_NB_High		46.1	10.14	0.25	2 False	234
					Subtotal	1531
<i>Cyperus conicus / Cyperus conicus (Flora)</i>						
55_NB_High		26.0	0.52	0.25	2 False	7
56_NB_Low		19.6	38.43	0.25	2 False	377
56_NB_Medium		49.3	12.31	0.25	2 False	304
56_NB_High		62.1	27.87	0.25	2 False	866
					Subtotal	1554



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Desmodium campylocaulon / Creeping Tick-trefoil (Flora)

35_NB_Low	13.4	4.91	0.25	2	False	33
35_NB_High	85.2	9.98	0.25	2	False	425
						Subtotal 458

Dichanthium setosum / Bluegrass (Flora)

35_NB_Low	13.4	4.91	0.25	2	False	33
35_NB_High	85.2	9.98	0.25	2	False	425
55_NB_High	26.0	0.52	0.25	2	False	7
56_NB_Low	19.6	27.87	0.25	2	False	273
56_NB_Medium	49.3	12.31	0.25	2	False	304
56_NB_High	62.1	27.87	0.25	2	False	866
						Subtotal 1908

Digitaria porrecta / Finger Panic Grass (Flora)

35_NB_Low	13.4	4.91	0.25	2	False	33
35_NB_High	85.2	9.98	0.25	2	False	425
55_NB_High	26.0	0.52	0.25	2	False	7
56_NB_Low	19.6	38.43	0.25	2	False	377
56_NB_Medium	49.3	12.31	0.25	2	False	304
56_NB_High	62.1	27.87	0.25	2	False	866
244_NB_Medium	51.0	4.71	0.25	2	False	120
244_NB_High	46.1	10.14	0.25	2	False	234



BAM Credit Summary Report

							Subtotal	2366
<i>Diuris tricolor / Pine Donkey Orchid (Flora)</i>								
56_NB_Medium	49.3		12.31	0.25		1.5	False	228
56_NB_High	62.1		10.14	0.25		1.5	False	236
							Subtotal	464
<i>Homopholis belsonii / Belson's Panic (Flora)</i>								
35_NB_Low	13.4		4.91	0.25		2	False	33
35_NB_High	85.2		9.98	0.25		2	False	425
55_NB_High	26.0		0.52	0.25		2	False	7
56_NB_Low	19.6		38.43	0.25		2	False	377
56_NB_Medium	49.3		12.31	0.25		2	False	304
56_NB_High	62.1		27.87	0.25		2	False	866
244_NB_Medium	51.0		4.71	0.25		2	False	120
244_NB_High	46.1		10.14	0.25		2	False	234
98_NB_High	67.7		1.77	0.25		2	False	60
244_NB_Low	18.3		1.09	0.25		2	False	10
							Subtotal	2436
<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>								
53_NB_Medium	79.5		5.8	0.25		2	False	231
35_NB_Low	13.4		4.91	0.25		2	False	33
35_NB_High	85.2		9.98	0.25		2	False	425



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56_NB_Low	19.6	38.43	0.25	2	False	377
56_NB_Medium	49.3	12.31	0.25	2	False	304
56_NB_High	62.1	27.87	0.25	2	False	866
244_NB_Medium	51.0	4.71	0.25	2	False	120
244_NB_High	46.1	10.14	0.25	2	False	234
244_NB_Low	18.3	1.09	0.25	2	False	10
					Subtotal	2600
<i>Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)</i>						
35_NB_High	85.2	9.98	0.25	3	True	638
					Subtotal	638
<i>Nettapus coromandelianus / Cotton Pygmy-Goose (Fauna)</i>						
53_NB_Medium	79.5	5.8	0.25	2	False	231
					Subtotal	231
<i>Petaurus norfolkensis / Squirrel Glider (Fauna)</i>						
55_NB_High	26.0	0.52	0.25	2	False	7
244_NB_High	46.1	10.14	0.25	2	False	234
					Subtotal	241
<i>Platyzoma microphyllum / Braid Fern (Flora)</i>						
53_NB_Medium	79.5	5.8	0.25	3	True	346
					Subtotal	346



BAM Credit Summary Report

<i>Setirostris eleryi / Bristle-faced Free-tailed Bat (Fauna)</i>						
35_NB_Low	13.4	4.91	0.25		2 False	33
35_NB_High	85.2	9.98	0.25		2 False	425
56_NB_Medium	49.3	12.31	0.25		2 False	304
56_NB_High	62.1	27.87	0.25		2 False	866
244_NB_Medium	51.0	4.71	0.25		2 False	120
244_NB_High	46.1	10.14	0.25		2 False	234
98_NB_High	67.7	1.77	0.25		2 False	60
					Subtotal	2042
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
35_NB_Low	13.4	4.91	0.25		2 False	33
35_NB_High	85.2	9.98	0.25		2 False	425
55_NB_High	26.0	0.52	0.25		2 False	7
56_NB_Low	19.6	37.43	0.25		2 False	367
56_NB_Medium	49.3	12.31	0.25		2 False	304
56_NB_High	62.1	27.87	0.25		2 False	866
244_NB_Medium	51.0	4.71	0.25		2 False	120
244_NB_High	46.1	10.14	0.25		2 False	234
244_NB_Low	18.3	1.09	0.25		2 False	10
					Subtotal	2366



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Swainsona sericea / Silky Swainson-pea (Flora)

56_NB_Low	19.6	38.43	0.25	2	False	377
56_NB_Medium	49.3	12.31	0.25	2	False	304
56_NB_High	62.1	27.87	0.25	2	False	866
244_NB_Medium	51.0	4.71	0.25	2	False	120
244_NB_High	46.1	10.14	0.25	2	False	234
98_NB_High	67.7	1.77	0.25	2	False	60
244_NB_Low	18.3	1.09	0.25	2	False	10
					Subtotal	1971

Tyto novaehollandiae / Masked Owl (Fauna)

35_NB_High	85.2	9.98	0.25	2	False	425
55_NB_High	26.0	0.52	0.25	2	False	7
56_NB_Medium	49.3	12.31	0.25	2	False	304
56_NB_High	62.1	27.87	0.25	2	False	866
244_NB_Medium	51.0	4.71	0.25	2	False	120
244_NB_High	46.1	10.14	0.25	2	False	234
98_NB_High	67.7	1.77	0.25	2	False	60
					Subtotal	2016



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Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00013930/BAAS17097/20/00014414	FFJV Inland Rail NS2B Northern Outwash	26/11/2019
Assessor Name	Report Created	BAM Data version *
Sarah Glauert	24/01/2020	22
Assessor Number	BAM Case Status	Date Finalised
BAAS17097	Open	To be finalised
Assessment Revision	Assessment Type	
2	Major Projects	

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Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss / gain	Area (ha)	Constant	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAI	Ecosystem credits
Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion								
1	35_NO_High		84.6	4.2	0.25 High Sensitivity to Potential Gain	2.00 TRUE		176
7	35_NO_Low		26.2	4.7	0.25 High Sensitivity to Potential Gain	2.00 TRUE		61



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						Subtotal	237
Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW							
4	56_NO_Medium	29.1	2.3	0.25	High Sensitivity to Potential Gain	2.00	33
5	56_NO_High	43.1	2.7	0.25	High Sensitivity to Potential Gain	2.00	57
6	56_NO_Low	28.0	47.4	0.25	High Sensitivity to Potential Gain	2.00	665
						Subtotal	755
River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains mainly in the Darling Riverine Plains Bioregion							
2	36_NO-Medium	55.4	0.5	0.25	High Sensitivity to Potential Gain	1.75	12
3	36_NO_High	65.5	0.4	0.25	High Sensitivity to Potential Gain	1.75	13
						Subtotal	25
Weeping Myall open woodland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion							
8	27_NO_Low	19.0	4.3	0.25	High Sensitivity to Potential Gain	2.00	41
9	27_NO_Med	71.4	0.0	0.25	High Sensitivity to Potential Gain	2.00	1
						Subtotal	42
						Total	1059

Species credits for threatened species

Vegetation zone name	Habitat condition (HC)	Area (ha) / individual (HL)	Constant	Biodiversity risk weighting	Potential SAll	Species credits
<i>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</i>						
36_NO-Medium	55.4	0.44	0.25	2	False	12
36_NO_High	65.5	0.44	0.25	2	False	14

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56_NO_Medium	29.1	2.27	0.25	2	False	33
56_NO_High	43.1	2.27	0.25	2	False	49
						Subtotal 108
<i>Cyperus conicus / Cyperus conicus (Flora)</i>						
56_NO_Medium	29.1	2.27	0.25	2	False	33
56_NO_High	43.1	2.64	0.25	2	False	57
56_NO_Low	28.0	47.37	0.25	2	False	664
						Subtotal 754
<i>Desmodium campylocaulon / Creeping Tick-trefoil (Flora)</i>						
35_NO_High	84.6	4.17	0.25	2	False	176
35_NO_Low	26.2	4.69	0.25	2	False	61
27_NO_Low	19.0	4.25	0.25	2	False	40
27_NO_Med	71.4	0.03	0.25	2	False	1
						Subtotal 278
<i>Dichanthium setosum / Bluegrass (Flora)</i>						
35_NO_High	84.6	4.17	0.25	2	False	176
56_NO_Medium	29.1	2.27	0.25	2	False	33
56_NO_High	43.1	2.64	0.25	2	False	57
56_NO_Low	28.0	47.39	0.25	2	False	664
35_NO_Low	26.2	4.69	0.25	2	False	61
27_NO_Low	19.0	4.25	0.25	2	False	40



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27_NO_Med	71.4	0.03	0.25	2	False	1
						Subtotal 1032
<i>Digitaria porrecta / Finger Panic Grass (Flora)</i>						
35_NO_High	84.6	4.17	0.25	2	False	176
56_NO_Medium	29.1	2.27	0.25	2	False	33
56_NO_High	43.1	2.64	0.25	2	False	57
56_NO_Low	28.0	47.39	0.25	2	False	664
35_NO_Low	26.2	4.69	0.25	2	False	61
27_NO_Low	19.0	4.25	0.25	2	False	40
27_NO_Med	71.4	0.03	0.25	2	False	1
						Subtotal 1032
<i>Homopholis belsonii / Belson's Panic (Flora)</i>						
35_NO_High	84.6	4.17	0.25	2	False	176
56_NO_Medium	29.1	2.27	0.25	2	False	33
56_NO_High	43.1	2.64	0.25	2	False	57
56_NO_Low	28.0	47.39	0.25	2	False	664
35_NO_Low	26.2	4.69	0.25	2	False	61
27_NO_Low	19.0	4.25	0.25	2	False	40
27_NO_Med	71.4	0.03	0.25	2	False	1
						Subtotal 1032



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<i>Hoplocephalus bitorquatus / Pale-headed Snake (Fauna)</i>						
36_NO-Medium	55.4	0.48	0.25		2 False	13
36_NO_High	65.5	0.44	0.25		2 False	14
56_NO_Medium	29.1	2.27	0.25		2 False	33
56_NO_High	43.1	2.64	0.25		2 False	57
56_NO_Low	28.0	47.39	0.25		2 False	664
27_NO_Med	71.4	0.03	0.25		2 False	1
					Subtotal	782
<i>Jalmenus eubulus / Pale Imperial Hairstreak (Fauna)</i>						
35_NO_High	84.6	4.17	0.25		3 True	265
					Subtotal	265
<i>Setirostris evelyni / Bristle-faced Free-tailed Bat (Fauna)</i>						
35_NO_High	84.6	4.17	0.25		2 False	176
36_NO-Medium	55.4	0.48	0.25		2 False	13
36_NO_High	65.5	0.44	0.25		2 False	14
56_NO_Medium	29.1	2.27	0.25		2 False	33
56_NO_High	43.1	2.64	0.25		2 False	57
					Subtotal	293
<i>Swainsona murrayana / Slender Darling Pea (Flora)</i>						
35_NO_High	84.6	4.17	0.25		2 False	176
56_NO_Medium	29.1	2.27	0.25		2 False	33



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56_NO_High	43.1	2.64	0.25	2	False	57
56_NO_Low	28.0	47.39	0.25	2	False	664
35_NO_Low	26.2	1.3	0.25	2	False	17
27_NO_Low	19.0	4.25	0.25	2	False	40
27_NO_Med	71.4	0.03	0.25	2	False	1
Subtotal						988