

APPENDIX 1

FLORA DETAILS

Table 1.1: Flora species observed on the subject site by Keystone Ecological for this study. Cover abundance ratings (see text for details) are provided for full floristic quadrats (Q1 to Q7), each of 400 m². Species observed nearby those quadrats within the same vegetation type are shown as 'N'. Species observed in other parts of the site during random meander (RM) are indicated by 'x'. Additional species not found during survey but reported by Mark Fitzgerald (2005) are indicated (x), but their locations are not known and may not have been observed on site.

Family	Scientific Name	Common Name	Vegetation type and quadrat										RM	MF
			2/3		1	2	1	2	1	2	2			
			Q1	Q2	Q3	Q4	Q5	Q6	Q7					
Acanthaceae	<i>Thunbergia alata</i> *	Black-eyed Susan		N										
Amaranthaceae	<i>Deeringia amaranthoides</i>	-	2											
Anacardiaceae	<i>Euroschinus falcatus</i> var. <i>falcatus</i>	Ribbonwood										x		
Apocynaceae	<i>Parsonsia straminea</i>	Common Silkpod	2	2					1					
Araliaceae	<i>Polyscias elegans</i>	Black Pencil Cedar	2	2		2					4b			
Araliaceae	<i>Schefflera actinophylla</i> *	Umbrella Tree	2	4b		2					N			
Arecaceae	<i>Archontophoenix cunninghamiana</i>	Bangalow Palm	1	3										
Arecaceae	<i>Livistona australis</i>	Cabbage Tree Palm	2	1										
Arecaceae	<i>Syagrus romanzoffiana</i> *	Cocos Palm		N										
Asparagaceae	<i>Asparagus aethiopicus</i> *	Asparagus Fern	4b	4b	3		1	1	1	N				
Asparagaceae	<i>Asparagus densiflorus</i> *	Asparagus Fern	4b	4b										
Aspleniaceae	<i>Asplenium australasicum</i>	Birds Nest Fern	N	1						N				
Asteliaceae	<i>Cordyline stricta</i>	Narrow-leaf Palm Lily		1										
Asteraceae	<i>Conyza</i> sp.*	-					1							
Asteraceae	<i>Delairea odorata</i> *	Cape Ivy					N							
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Vine	N	2					1					
Casuarinaceae	<i>Allocasuarina littoralis</i>	Black She-oak			N					N				
Commelinaceae	<i>Commelina cyanea</i>	Native Wandering Jew	1	2	1	1	1							
Commelinaceae	<i>Tradescantia fluminensis</i> *	Wandering Jew		4b										
Commelinaceae	<i>Tradescantia zebrina</i> *	Silvery Inch Plant						N						
Convolvulaceae	<i>Ipomoea cairica</i> *	Blue Morning Glory										x		

Family	Scientific Name	Common Name	Vegetation type and quadrat												RM	MF
			2/3		1	2	1	2	1	2	2	2	2	2		
			Q1	Q2	Q3	Q4	Q5	Q6	Q7							
Crassulaceae	<i>Bryophyllum delagoense</i> *	Mother of Millions			N											
Crassulaceae	<i>Bryophyllum pinnatum</i> *	Resurrection Plant								N						
Cupressaceae	<i>Callitris columellaris</i>	Coastal Cypress Pine								4b						
Cyperaceae	<i>Cyperus tetraphyllus</i>	-	2	2												
Cyperaceae	<i>Isolepis</i> sp.	Club-rush			1	2	2									
Davalliaceae	<i>Nephrolepis cordifolia</i>	Fish-bone Fern													x	
Dennstaedtiaceae	<i>Pteridium esculentum</i>	Bracken	3	3	4b	3	2	1	1							
Dilleniaceae	<i>Hibbertia scandens</i>	Climbing Guinea-flower			N	1	1									
Dioscoreaceae	<i>Dioscorea transversa</i>	Native Yam	2													
Dracaenaceae	<i>Sansevieria trifasciata</i>	Mother-In-Laws Tongue									N					
Elaeocarpaceae	<i>Elaeocarpus obovatus</i>	Hard Quandong														
Ericaceae	<i>Monotoca elliptica</i>	Tree Broom-heath	2						N							
Ericaceae	<i>Trochocarpa laurina</i>	Tree Heath	4b	2	1	1	1	1								
Euphorbiaceae	<i>Breynia oblongifolia</i>	Coffee Bush	2		1	1	1	1	1							
Euphorbiaceae	<i>Claoxylon australe</i>	Brittlewood									1					
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	Cheese Tree	N								4b					
Fabaceae	<i>Senna pendula</i> var. <i>glabrata</i> *	-	1	N												
Lamiaceae	<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum													x	
Lamiaceae	<i>Gmelina leichhardtii</i>	White Beech													x	
Lauraceae	<i>Beilschmiedia obtusifolia</i>	Blush Walnut		1												x
Lauraceae	<i>Cinnamomum camphorum</i> *	Camphor Laurel														
Lauraceae	<i>Cryptocarya glaucescens</i>	Jackwood	2													
Lauraceae	<i>Endiandra discolor</i>	Rose Walnut		1												
Lauraceae	<i>Endiandra sieberi</i>	Corkwood	1	1												
Lauraceae	<i>Neolitsea australiensis</i>	Green Bolly Gum		1												
Lomandraceae	<i>Lomandra filiformis</i> var. <i>filiformis</i>	Wattle Mat-rush								1						

Family	Scientific Name	Common Name	Vegetation type and quadrat										RM	MF
			2/3		1	2	1	2	2	2	2			
			Q1	Q2	Q3	Q4	Q5	Q6	Q7					
Lomandraceae	<i>Lomandra longifolia</i>	Spiky-headed Mat-rush	3	3	1		3	1	N					
Luzuriagaceae	<i>Eustrephus latifolius</i>	Wombat Berry	2	2				1						
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	Scrambling Lily		1				1						
Malvaceae	<i>Commersonia bartramia</i>	Brown Kurrajong		1										
Malvaceae	<i>Sterculia quadrifida</i>	Red-fruited Kurrajong									x			
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	Snake Vine	3	3	1			1						
Mimosaceae	<i>Acacia disparrima</i> subsp. <i>disparrima</i>	Salwood		2	5	4b	4b	4b	4b					
Mimosaceae	<i>Acacia maidenii</i>	Maiden's Wattle	4b	4b		N								
Monimiaceae	<i>Wilkiea huegeliana</i>	Wilkiea	N	1										
Moraceae	<i>Ficus elastica</i> *	Rubber Plant		N										
Moraceae	<i>Maclura cochinchinensis</i>	Cockspur Thorn	2	N										
Myrsinaceae	<i>Myrsine variabilis</i>	-										x		
Myrtaceae	<i>Acmena hemilampra</i>	Broad-leaved Lilly Pilly	N					4b	N					
Myrtaceae	<i>Austromyrtus dulcis</i>	Midgen Berry									x			
Myrtaceae	<i>Corymbia intermedia</i>	Pink Bloodwood	5	4b		4b		4b	1					
Myrtaceae	<i>Eucalyptus propinqua</i> var. <i>propinqua</i>	Small Fruited Grey Gum								N				
Myrtaceae	<i>Eucalyptus tereticornis</i>	Forest Red Gum							4b					
Myrtaceae	<i>Leptospermum laevigatum</i>	Coast Tea Tree								N				
Myrtaceae	<i>Leptospermum polygalifolium</i> subsp. <i>polygalifolium</i>	Lemon Scented Tea Tree			1									
Myrtaceae	<i>Lophostemon confertus</i>	Brush Box	4b	4b		1	N		N					
Myrtaceae	<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	1	4b										
Myrtaceae	<i>Ptilidostigma glabrum</i>	Plum Myrtle										x		
Myrtaceae	<i>Psidium cattleianum</i> var. <i>cattleianum</i> *	Cherry Guava										x		
Myrtaceae	<i>Syzygium australe</i>	Brush Cherry			1									
Myrtaceae	<i>Syzygium luehmannii</i>	Small-leaved Lilly Pilly		4b										
Ochnaceae	<i>Ochna serrulata</i> *	Mickey Mouse Plant	3	4b					1					

Family	Scientific Name	Common Name	Vegetation type and quadrat										RM	MF
			2/3		1	2	1	2	1	2	2	2		
			Q1	Q2	Q3	Q4	Q5	Q6	Q7					
Oleaceae	<i>Notelaea longifolia</i> forma <i>intermedia</i>	-	1	1										
Orchidaceae	<i>Cymbidium madidum</i>	-						1						
Orchidaceae	<i>Cymbidium suave</i>	Snake Orchid	N											
Orchidaceae	<i>Epidendrum radicans</i> x <i>secundum</i> hybrid complex	Crucific Orchid					N							
Orchidaceae	<i>Zeuxine oblonga</i>	-	1				1		1		1			
Passifloraceae	<i>Passiflora herbertiana</i>	Native Passionfruit	3	N						1				
Phormiaceae	<i>Dianella caerulea</i>	Flax Lily	2	2					N					
Phyllanthaceae	<i>Bridelia exaltata</i>	Brush Ironbark											x	
Pinaceae	<i>Pinus</i> sp.*	-		N										
Poaceae	<i>Entolasia stricta</i>	Wiry Panic		2										
Poaceae	<i>Melinis minutiflora</i> *	Molasses Grass	4a	4b	7	4b	4b	4b	4b	6				
Poaceae	<i>Oplismenus aemulus</i>	Basket Grass			1									
Poaceae	<i>Paspalum urvillei</i> *	Vasey Grass		N										
Polypodiaceae	<i>Platynerium bifurcatum</i>	Elkhorn Fern	3		1	1	1	1	1	1	1			
Polypodiaceae	<i>Pyrrosia rupestris</i>	Rock Felt Fern					N							
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	Coast Banksia	2	2	1	4b	1	1	1	1				
Proteaceae	<i>Banksia serrata</i>	Old Man Banksia		1										
Proteaceae	<i>Persoonia stradbrokeensis</i>	-							N					
Rhamnaceae	<i>Pomaderris vellea</i>	Woolly Pomaderris	1											
Rosaceae	<i>Rubus rosifolius</i>	Forest Bramble					N							
Rubiaceae	<i>Caelospermum paniculatum</i>	-		1										
Rubiaceae	<i>Coffea arabica</i> *	Coffee		N										
Rubiaceae	<i>Morinda jasminoides</i>	-	2				1							
Rubiaceae	<i>Pomax umbellata</i>	Pomax	N	1										
Rutaceae	<i>Acronychia imperforata</i>	Logan Apple	4b	3	1	2	2	2	4b	4b				
Rutaceae	<i>Acronychia oblongifolia</i>	White Aspen											x	

Family	Scientific Name	Common Name	Vegetation type and quadrat										RM	MF
			2/3		1	2	1	2	2	2				
			Q1	Q2	Q3	Q4	Q5	Q6	Q7					
Sapindaceae	<i>Cupaniopsis anacardioides</i>	Tuckeroo	4b						3					
Sapindaceae	<i>Mischocarpus pyriformis</i>	Yellow Pear-fruit	2	1	1	1	1	1	1	3				
Smilacaceae	<i>Smilax australis</i>	Lawyer Vine	3	3	2	1		1	1	1				
Solanaceae	<i>Solanum nigrum</i> *	Black Nightshade	2		1									
Solanaceae	<i>Solanum seaforthianum</i> *	Brazilian Nightshade	2						1					
Verbenaceae	<i>Lantana camara</i> *	Lantana	6	6	5	6	4b	4b	7					
Vitaceae	<i>Cayratia clematidea</i>	Slender Grape	1		1	1								
Vitaceae	<i>Cissus hypoglauca</i>	Water Vine		2		1				4b				
Vitaceae	<i>Cissus sterculiifolia</i>	Long-leaf Water Vine	N											

Table 1.2: Flora species of conservation significance recorded within 10 km of subject site. E=Endangered, EPop=Endangered Population, Ext=Extinct, V=Vulnerable. Source: OEH Wildlife Atlas database, 2015.

Family	Scientific Name	Status TSC Act (1995)	Status EPBC Act (1999)	Habitat requirements	Suitability of Site	Survey considerations	Likelihood to occur	Impact assessment
Casuarinaceae	<i>Allocasuarina defungens</i>	E	E	Occurs on coastal heath.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Cyperaceae	<i>Cyperus aquatilis</i>	E	-	Occurs in ephemeral wet sites such as roadside ditches and seepage area in sandstone areas.	No suitable habitat on site.		Low to no likelihood to occur.	No further impact assessment required.
Dilleniaceae	<i>Hibbertia marginata</i>	V	V	Occurs in grassy or shrubby open eucalypt forest at low altitudes on sandstone.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Euphorbiaceae	<i>Chamaesyce psammogeton</i>	E	-	Occurs on coastal sand dunes.	No suitable habitat on site.		Low to no likelihood to occur.	No further impact assessment required.
Fabaceae	<i>Sophora tomentosa</i> subsp. <i>australis</i>	E	-	Occurs on coastal sand dunes.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Juncaginaceae	<i>Maundia triglochinoides</i>	V	-	Occurs in freshwater wetlands.	No suitable habitat on site.		Low to no likelihood to occur.	No further impact assessment required.
Lauraceae	<i>Endlandra hayesii</i>	V	V	It is a rainforest species occurring in cool, moist sheltered valleys and gullies.	No suitable habitat on site.		Low likelihood to occur.	No Further impact assessment required.
Menispermaceae	<i>Tinospora tinosporoides</i>	V	-	Common in subtropical rainforests, littoral rainforests on fertile, basalt soils.	No suitable habitat on site.		Low likelihood to occur.	No Further impact assessment required.
Orchidaceae	<i>Diuris</i> sp. aff. <i>chrysantha</i>	E	-	Known only from a single location at Byron Bay. Occurs in low-growing grassy heath on clay soil.	No suitable habitat on site.		Low likelihood to occur.	No Further impact assessment required.
Orchidaceae	<i>Peristeranthus hillei</i>	V	-	Restricted to coastal areas including littoral rainforest and lowland rainforest on floodplain.	No suitable habitat on site.		Only 1 record identified within the broader study area; from Iluka NR. Low likelihood to occur.	No further impact assessment required.
Orchidaceae	<i>Phaius australis</i>	E	E	Occurs in swampy grassland or swampy forest including rainforest, eucalypt or paperbark forest, mostly in coastal areas; as far south as Coffs Harbour.	Suitable habitat on site.	Flowers Sep-Oct, but identifiable all year.	This species was found north of the site next to the golf course. Potential habitat for this species occurs at the western end of the site in swamp sclerophyll forest. High likelihood to occur.	Further impact assessment required.
Rutaceae	<i>Acronychia littoralis</i>	E	E	Found in transition zones between littoral rainforest and swamp sclerophyll forest. Usually occurs within 2km from the coast on sandy soils.	Suitable habitat on site.	Fruit (May to August) required for certainty, although leaf characters are indicative.	16 records were identified with the closest and most recent being 3km south of the subject site in 2012. High likelihood to occur.	Further impact assessment required.

APPENDIX 2

FAUNA DETAILS

Table 2.1: Fauna survey effort on site. Survey efforts included comprehensive survey of diurnal and nocturnal species with targeted surveying undertaken for threatened species known to occur within the area.

Fauna Group	Survey Technique	Survey Effort				Comment
		Time spent (person hours)	No of people	Date		
Amphibians	Diurnal searches	40 minutes	1	11 th November 2014	Habitat searches and opportunistic surveys undertaken during all diurnal survey.	
		40 minutes	1	12 th November 2014		
		40 minutes	1	13 th November 2014		
		0.5 hours	1	25 th November 2014		
		0.5 hours	1	26 th November 2014		
		0.5 hours	1	27 th November 2014		
		0.5 hours	1	28 th November 2014		
		Overnight	NA	11 th -12 th October 2014		
	Nocturnal searches	1 hour	1	11 th November 2014	Spotlighting and active listening undertaken during all nocturnal survey.	
		1 hour	1	12 th November 2014		
0.5 hours		1	13 th November 2014			
1 hour		1	25 th November 2014			
0.5 hours		1	26 th November 2014			
0.5 hours		1	27 th November 2014			
0.5 hours		1	28 th November 2014			
Reptiles		Diurnal habitat searches	16 hours	2		10 th October 2014
	6 hours		2	11 th October 2014		
	5 hours		2	12 th October 2014		
	2 hours		2	13 th October 2014		
	4 hours		1	14 th October 2014		
	9 hours		3	15 th October 2014		
	13 hours		2	16 th October 2014		
	40 minutes		1	11 th November 2014		
	40 minutes		1	12 th November 2014		
	40 minutes		1	13 th November 2014		
	0.5 hours		1	25 th November 2014		

Fauna Group	Survey Technique	Survey Effort				Comment
		Time spent (person hours)	No of people	Date		
Diurnal Birds		0.5 hours	1	26 th November 2014		
		0.5 hours	1	27 th November 2014		
		0.5 hours	1	28 th November 2014		
	Nocturnal spotlight searches	1 hour	2	12 th October 2014	Total 6.5 person hours.	
		0.5 hour	2	14 th October 2014		
		1 hour	1	11 th November 2014		
		1 hour	1	12 th November 2014		
		0.5 hour	1	13 th November 2014		
		1 hour	1	25 th November 2014		
		0.5 hour	1	26 th November 2014		
		0.5 hour	1	27 th November 2014		
		0.5 hour	1	28 th November 2014		
	Opportunistic searches	16 hours	2	10 th October 2014	Total of 44 person hours active listening during all survey activities.	
		6 hours	2	11 th October 2014		
		5 hours	2	12 th October 2014		
		5 hours	2	13 th October 2014		
		4 hours	1	14 th October 2014		
		9.5 hours	3	15 th October 2014		
		13 hours	2	16 th October 2014		
		1 hour	1	11 th November 2014		
		0.5 hour	1	12 th November 2014		
		0.5 hour	1	13 th November 2014		
	Audio recording	0.5 hour	1	25 th November 2014	Recorded calls at dusk and dawn.	
		0.5 hour	1	26 th November 2014		
		0.5 hour	1	27 th November 2014		
		0.5 hour	1	28 th November 2014		
		1 hour	NA	11 th October 2014		
		1 hour	NA	12 th October 2014		

Fauna Group	Survey Technique	Survey Effort				Comment
		Time spent (person hours)	No of people	Date		
	Targeted Survey	1.5 hours	2	13 th October 2014	Active listen undertaken during targeted survey.	
Nocturnal Birds	Call broadcast	1 hour	2	12 th October 2014	Calls broadcast of: Powerful Owl Barking Owl Sooty Owl	
		1.5 hour	1	14 th October 2014		
		16 hours	2	10 th October 2014		
Terrestrial Mammals	Scats, tracks and signs searches	6 hours	2	11 th October 2014	Incidental survey during other activities.	
		5 hours	2	12 th October 2014		
		0.5 hour	2	13 th October 2014		
		4 hours	1	14 th October 2014		
		9.5 hours	3	15 th October 2014		
		13 hours	2	16 th October 2014		
		1 hour	1	11 th November 2014		
		1 hour	1	12 th November 2014		
		1 hour	1	13 th November 2014		
		1 hour	1	25 th November 2014		
		1 hour	1	26 th November 2014		
		0.5 hour	1	27 th November 2014		
		0.5 hour	1	28 th November 2014		
	Predator scats, tracks and signs searches	5 hours	2	13 th October 2014	Targeted search for predator scats.	
Camera traps	120 hours	NA	11 th -16 th October 2014	Total 120 hours (5 full days).		
	384 hours	NA	11 th – 27 th November 2014	Total 384 hours (16 full days).		

Fauna Group	Survey Technique	Survey Effort				Comment
		Time spent (person hours)	No of people	Date		
Arboreal Mammals	Koala Scat counts	5 hours	1	12 th November 2014	Total of 14 person hours in Koala scat survey with a total of 14 searches undertaken.	
		2 hours	1	26 th November 2014		
		7 hours	1	27 th November 2014		
	Targeted Call Broadcast	1 hour	2	12 th October 2014	Call broadcast of Koala	
		15 minutes	1	14 th October 2014		
	Hair Funnels	30 x hair funnels over 6 nights	NA	10 th - 16 th October 2014	Total 254 trap nights.	
		10 x hair funnels over 5 nights	NA	11 th - 16 th October 2014		
		6 hair funnels over 4 nights	NA	12 th - 16 th October 214		
	Spotlighting	1 hour	2	13 th October 2014	Spotlighting along internal and perimeter tracks.	
1 hour		1	14 th October 2014			
Megachiropteran Bats	Spotlighting	1 hour	2	13 th October 2014	Spotlighting along internal and perimeter tracks.	
		1 hour	1	14 th October 2014		
Microchiropteran Bats	Call recording	36 hours	NA	13 th – 16 th October 2014	Total 72 recording hours.	
		36 hours	NA	12 th – 15 th November 2014		

Table 2.2: Weather details taken from the most nearby weather station at Yamba on days of fauna survey. Source: Bureau of Meteorology, 2014.

Date	Temperature (°C)				Rain (mm)	Relative Humidity (%)		Wind Direction		Wind Speed (kph)	
	Min	Max	9am	3pm		9am	3pm	9am	3pm	9am	3pm
10/10/2014	17.0	23.9	19.4	22.2	0.0	-	-	WSW	ENE	7	17
11/10/2014	16.8	25.8	21.3	24.3	0	-	-	NW	NNE	9	13
12/10/2014	17.9	26.3	21.8	24.2	0	-	-	N	NNE	11	13
13/10/2014	16.1	26.5	22.2	25.1	0	-	-	NW	N	11	17
14/10/2014	17.8	28.3	23.1	27.0	4.2	-	-	NNW	W	15	22
15/10/2014	10.6	24.9	15.7	21.7	0	-	-	WNW	ENE	20	11
16/10/2014	11.8	25.2	18.0	22.7	0	-	-	WSW	NNE	11	13
11/11/2014	19.3	24.8	22.0	23.1	0	-	-	SSE	SSE	24	28
12/11/2014	18.0	21.7	19.4	21.4	3.4	-	-	SSW	SE	13	17
13/11/2014	18.7	26.2	20.7	24.0	0	82	70	WSW	N	6	9
14/11/2014	20.3	30.3	25.9	27.8	0	70	63	NNW	N	9	17
15/11/2014	20.9	34.8	30.2	28.0	0	53	65	NW	NNE	9	17
16/11/2014	20.0	27.2	24.5	24.6	0	70	80	N	ESE	7	20
17/11/2014	21.5	26.3	24.5	25.9	0	71	63	SSE	E	15	13
18/11/2014	21.7	28.1	25.7	26.2	0	70	72	N	NNE	9	19
19/11/2014	22.5	27.8	24.9	25.5	0.6	83	75	E	SE	11	24
20/11/2014	21.7	28.2	23.5	27.1	7.0	90	72	NW	NNE	7	24
21/11/2014	21.4	28.3	25.2	27.6	0	83	76	N	N	11	20
22/11/2014	21.5	26.6	25.8	26.2	0	82	83	N	ESE	7	19
23/11/2014	21.3	28.6	25.9	25.3	0	84	79	N	N	11	17
24/11/2014	20.7	28.2	24.8	24.5	0	84	79	N	N	9	17
25/11/2014	20.3	27.2	24.5	26.6	0	82	68	N	NNE	6	11
26/11/2014	20.4	25.1	23.4	22.6	6.6	97	-	SSE	SSE	15	17
27/11/2014	20.4	25.5	22.9	24.6	0.6	-	86	WSW	SSE	7	26
28/11/2014	20.5	26.6	24.2	25.4	0	70	69	SE	ESE	24	13

Table 2.3: Fauna recorded on and near the subject site. * = introduced. Species listed under TSC Act (1995) or EPBC Act (1999) are indicated in bold with a superscript. Superscript abbreviations: V=Vulnerable; E=Endangered; EPop=Endangered Population; M=Migratory species. All species recorded by Keystone Ecological unless otherwise noted. 'Site' denotes whether a species was recorded on site or close enough to the subject site for that species to be considered likely or able to use the habitats of the subject site.

Fauna Group	Scientific Name	Common Name	Type of Record	Site
Reptiles	<i>Varanus varius</i>	Lace Monitor	Observed	Yes
	<i>Egernia major</i>	Land Mullet	Camera trap image	Yes
	<i>Eulamprus quoyii</i>	Eastern Water Skink	Observed nearby	Yes
	<i>Sphenomorphus tympanum</i>	Water skink	Observed	Yes
	<i>Amphibolurus muricatus</i>	Jacky Lizard	Observed	Yes
	<i>Vermicella annulata</i>	Bandy Bandy Snake	Observed dead on road nearby	Yes
Birds	<i>Dromaius novaehollandiae</i>^{EPop}	Emu	Scats	Yes
	<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant	Observed in local area	No
	<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	Observed in local area	No
	<i>Ardea alba</i>	Great Egret	Observed in local area	No
	<i>Ardea ibis</i>^M	Cattle Egret	Observed in local area	No
	<i>Ardea pacifica</i>	White-necked Heron	Observed in local area	No
	<i>Butorides striatus</i>	Striated Heron	Observed in local area	No
	<i>Egretta novaehollandiae</i>	White-faced Heron	Observed in local area	No
	<i>Threskiornis molucca</i>	Australian White Ibis	Observed in local area	No
	<i>Chenonetta jubata</i>	Australian Wood Duck	Observed nearby	Yes
	<i>Pandion cristatus</i>^V	Eastern Osprey	Observed at nest in local area; Observed flying over	No
	<i>Haliastur spheonurus</i>	Whistling Kite	Observed in local area Observed flying over	Yes
	<i>Lophoictinia isura</i>^V	Square-tailed Kite	Observed nearby	Yes
	<i>Haliaeetus leucogaster</i>^M	White-bellied Sea-eagle	Observed at nest in local area	No
	<i>Haliastur indus</i>	Brahminy Kite	Observed in local area	No
	<i>Falco longipennis</i>	Australian Hobby	Observed overhead	Yes

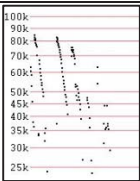
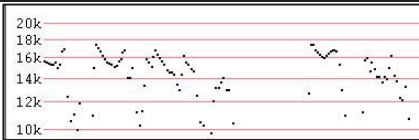
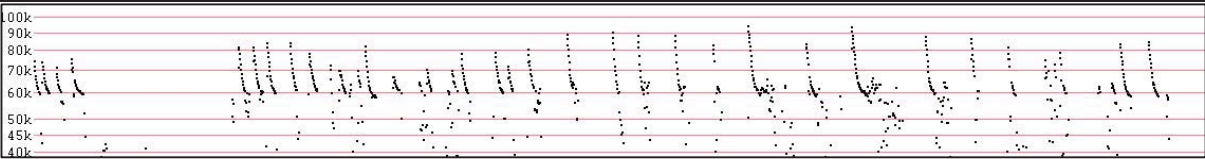
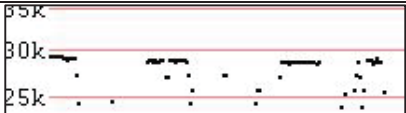
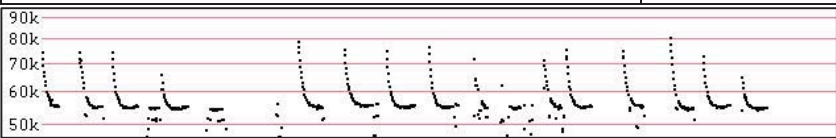
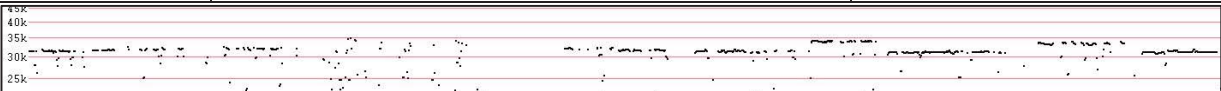
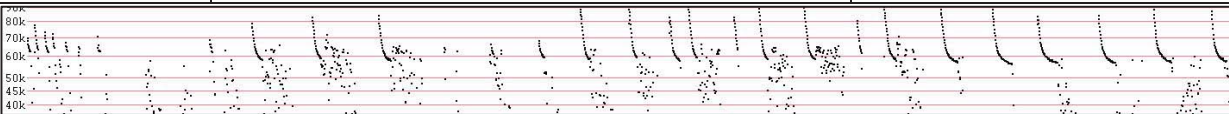
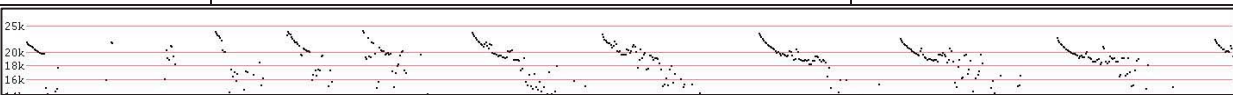
Fauna Group	Scientific Name	Common Name	Type of Record	Site
Birds	<i>Alectura lathami</i>	Australian Brush-turkey	Nest mound observed; Camera trap image	Yes
	<i>Haemotopus fuliginosus^V</i>	Sooty Oystercatcher	Observed in local area	No
	<i>Haemotopus longirostris^E</i>	Australian Pied Oystercatcher	Observed in local area	No
	<i>Charadrius leschenaulti^{V/M}</i>	Greater Sand-plover	Observed in local area	No
	<i>Arenaria interpres^M</i>	Ruddy Turnstone	Observed in local area	No
	<i>Calidris ruficollis^M</i>	Red-necked Stint	Observed in local area	No
	<i>Limosa lapponica^M</i>	Bar-tailed Godwit	Observed in local area	No
	<i>Sterna hirundo^M</i>	Common Tern	Observed in local area	No
	<i>Vanellus miles</i>	Masked Lapwing	Observed nearby	No
	<i>Larus novaehollandiae</i>	Silver Gull	Observed in local area	No
	<i>Sternula albifrons^{E/M}</i>	Little Tern	Observed in local area	No
	<i>Columba leucomela</i>	White-headed Pigeon	Observed nearby	Yes
	<i>Geopelia humeralis</i>	Bar-shouldered Dove	Observed	Yes
	<i>Leucosarcia melanoleuca</i>	Wonga Pigeon	Observed nearby; Camera trap image	Yes
	<i>Macropygia amboinensis</i>	Brown Cuckoo-Dove	Heard	Yes
	<i>Ocyphaps lophotes</i>	Crested Pigeon	Observed	Yes
	<i>Ptilinopus regina^V</i>	Rose-crowned Fruit-dove	Observed nearby in Iluka NR; Heard on site	Yes
	<i>Ptilinopus superbus^V</i>	Superb Fruit-Dove	Heard on site	Yes
	<i>Streptopelia chinensis[*]</i>	Spotted Dove	Observed	Yes
	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Observed nearby	Yes
	<i>Cacatua sanguinea</i>	Little Corella	Observed nearby	Yes
	<i>Cacatua roseicapilla</i>	Galah	Observed nearby	Yes
	<i>Calyptorhynchus funereus</i>	Yellow-tailed Black-Cockatoo	Observed nearby	Yes
	<i>Calyptorhynchus lathami^V</i>	Glossy Black-Cockatoo	Evidence of foraging activity on site documented by Fitzgerald (2005)	Yes
	<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet	Observed nearby	Yes
	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Observed	Yes

Fauna Group	Scientific Name	Common Name	Type of Record	Site
Birds	<i>Platycercus eximius</i>	Eastern Rosella	Observed	Yes
	<i>Eudynamys scolopacea</i>	Eastern Koel	Heard nearby	Yes
	<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	Observed	Yes
	<i>Chrysococcyx lucidus</i>	Shining Bronze-Cuckoo	Heard	Yes
	<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo	Observed	Yes
	<i>Podargus strigoides</i>	Tawny Frogmouth	Feather	Yes
	<i>Hirundapus caudacutus</i>^M	White-throated Needletail	Observed overhead	Yes
	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Observed	Yes
	<i>Todiramphus sanctus</i>	Sacred Kingfisher	Observed nearby	Yes
	<i>Merops ornatus</i>^M	Rainbow Bee-eater	Observed foraging; Observed at nest	Yes
	<i>Eurystomus orientalis</i>	Dollarbird	Observed nearby	Yes
	<i>Hirundo neoxena</i>	Welcome Swallow	Observed nearby	Yes
	<i>Coracina lineata</i>^V	Barred Cuckoo-shrike	Observed nearby	Yes
	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Observed	Yes
	<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike	Observed	Yes
	<i>Coracina tenuirostris</i>	Cicadabird	Observed	Yes
	<i>Lalage sueurii</i>	White-winged Triller	Observed	Yes
	<i>Rhipidura fuliginosa</i>	Grey Fantail	Observed	Yes
	<i>Rhipidura leucophrys</i>	Willie Wagtail	Observed nearby	Yes
	<i>Rhipidura rufifrons</i>^M	Rufous Fantail	Observed foraging; Observed at nest; Camera trap image	Yes
	<i>Colluricincla harmonica</i>	Grey Shrike-thrush	Observed	Yes
	<i>Colluricincla megarrhyncha</i>	Little Shrike-thrush	Observed	Yes
	<i>Falcunculus frontatus</i>	Crested Shrike-tit	Observed	Yes
	<i>Pachycephala pectoralis</i>	Golden Whistler	Observed	Yes
	<i>Pachycephala rufiventris</i>	Rufous Whistler	Observed at nest	Yes
	<i>Sphecotheres viridis</i>	Figbird	Observed	Yes

Fauna Group	Scientific Name	Common Name	Type of Record	Site
Birds	<i>Oriolus sagittatus</i>	Olive-backed Oriole	Observed	Yes
	<i>Eopsaltria australis</i>	Eastern Yellow Robin	Observed; Camera trap image	Yes
	<i>Myiagra rubecula</i>	Leaden flycatcher	Observed	Yes
	<i>Psophodes olivaceus</i>	Eastern Whipbird	Observed; Camera trap image	Yes
	<i>Malurus cyaneus</i>	Superb Fairy-wren	Observed	Yes
	<i>Malurus lamberti</i>	Variiegated Fairy-wren	Observed	Yes
	<i>Acanthiza pusilla</i>	Brown Thornbill	Observed	Yes
	<i>Gerygone mouki</i>	Brown Gerygone	Observed	Yes
	<i>Sericornis frontalis</i>	White-browed Scrubwren	Observed	Yes
	<i>Daphoenositta chrysoptera</i>^v	Varied Sittella	Observed	Yes
	<i>Anthochaera chrysoptera</i>	Little Wattlebird	Observed	Yes
	<i>Lichmera indistincta</i>	Brown Honeyeater	Observed	Yes
	<i>Manorina melanocephala</i>	Noisy Miner	Observed	Yes
	<i>Meliphaga lewinii</i>	Lewin's Honeyeater	Observed	Yes
	<i>Phylidonyris nigra</i>	White-cheeked Honeyeater	Observed	Yes
	<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	Observed nearby	Yes
	<i>Dicaeum hirundinaceum</i>	Mistletoe Bird	Observed	Yes
	<i>Zosterops lateralis</i>	Silvereye	Observed	Yes
	<i>Neochmia temporalis</i>	Red-browed Finch	Observed	Yes
	<i>Acridotheres tristis</i> *	Common Myna	Observed nearby	Yes
	<i>Sturnus vulgaris</i> *	Common Starling	Observed nearby	Yes
	<i>Sericulus chrysocephalus</i>	Regent Bowerbird	Observed	Yes
	<i>Grallina cyanoleuca</i>	Australian Magpie-Lark	Observed	Yes
	<i>Cracticus nigrogularis</i>	Pied Butcherbird	Observed nearby	Yes
	<i>Cracticus torquatus</i>	Grey Butcherbird	Observed	Yes
	<i>Cracticus tibicen</i>	Australian Magpie	Observed	Yes
	<i>Strepera graculina</i>	Pied Currawong	Observed nearby	Yes

Fauna Group	Scientific Name	Common Name	Type of Record	Site
Birds	<i>Corvus coronoides</i>	Australian Raven	Observed	Yes
Mammals	<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	Observed	Yes
	<i>Trichosurus vulpecula</i>	Brushtail Possum	Hair sample; Hair in Dog scat	Yes
	<i>Perameles nasuta</i>	Long-nosed Bandicoot	Camera trap image	Yes
	<i>Phascogalea cinerea</i> ^v	Koala	Camera trap image; Scats identified by Fitzgerald (2005)	Yes
	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Observed nearby; Camera trap image	Yes
	<i>Wallabia bicolor</i>	Swamp Wallaby	Camera trap image	Yes
	<i>Nyctophilus bifax</i> ^v	Eastern Long-eared Bat	Call recorded - possible	Yes
	<i>Saccolaimus flaviventris</i> ^v	Yellow-bellied Sheath-tail-bat	Call recorded - definite	Yes
	<i>Tadarida australis</i>	White-striped Freetail-bat	Call recorded - possible	Yes
	<i>Mormopterus norfolkensis</i> ^v	Eastern Freetail-bat	Call recorded - definite	Yes
	<i>Mormopterus</i> sp.	Freetail-bat	Call recorded - definite	Yes
	<i>Miniopterus australis</i> ^v	Little Bentwing-bat	Call recorded - definite	Yes
	<i>Scotorepens</i> sp.	Broad-nosed Bat	Call recorded - possible	Yes
	<i>Scotorepens greyii</i>	Little Broad-nosed Bat	Call recorded - possible	Yes
	<i>Vespadelus pumilus</i>	Eastern Forest Bat	Call recorded - definite	Yes
	<i>Rattus tunneyi</i>	Pale field Rat	Hair sample; Camera trap image	Yes
	<i>Rattus rattus</i> [*]	Black Rat	Hair in Fox scat	
	<i>Canis familiaris</i> [*]	Dog	Camera trap image	Yes
	<i>Vulpes vulpes</i> [*]	European Red Fox	Scat; Camera trap image	Yes
	<i>Felis catus</i> [*]	Cat	Observed in local area	Yes
	<i>Oryctolagus cuniculus</i> [*]	Rabbit	Observed in local area	Yes
	<i>Ovis aries</i> [*]	Sheep	Jaw fragment of one of these species in predator scat	No
	<i>Capra hircus</i> [*]	Goat		

Table 2.4: Microbat call analysis sheet.

Microbat Call Analysis Data Sheet		
Location: Hickey Street, Iluka	Date(s): Night 1: 12-13/10/14 Night 2: 13-14/10/14 Night 3: 14-15/10/14	Start time: Dusk Finish time: Dawn
mobile ☐ and/or stationary ☒		
Habitat: Dry Sclerophyll Forest and Swamp Sclerophyll Forest		
Date	Species	Certainty of ID definite/probable/possible
12-13/ Oct/14	<i>Nyctophilus bifax</i>	Possible
		
12-13/ Oct/14	<i>Tadarida australis</i> White-striped Freetail-bat	Possible
		
13-14/Oct/14	<i>Miniopterus australis</i> Little bent-wing bat	Definite
		
13-14/ Oct/14	<i>Mormopterus</i> sp.	Definite
		
13-14/ Oct/14	<i>Vespadelus pumilus</i> Eastern Forest Bat	Definite
		
14-15/ Oct/14	<i>Mormopterus norfolkensis</i> Eastern Freetail-bat	Definite
		
14-15/ Oct/14	<i>Miniopterus australis</i> Little bent-wing bat	Definite
		
14-15/ Oct/14	<i>Saccolaimus flaviventris</i> Yellow-bellied sheath-tailed bat	Definite
		

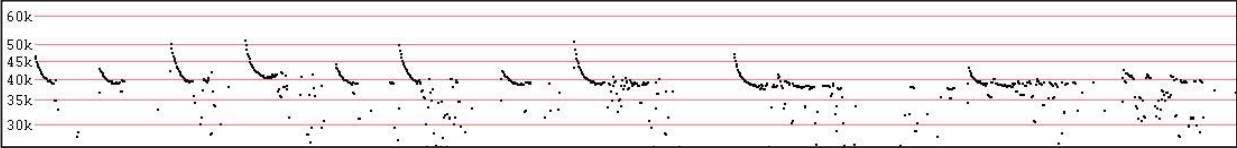
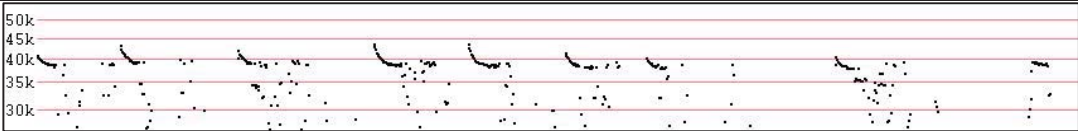
14-15/ Oct/14	<i>Scotorepens</i> sp.	Possible
		
14-15/ Oct/14	<i>Scotorepens greyii</i> Little Broad-nosed Bat	Possible
		

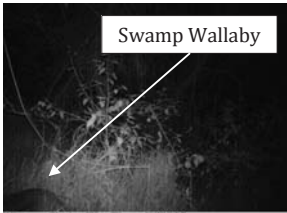
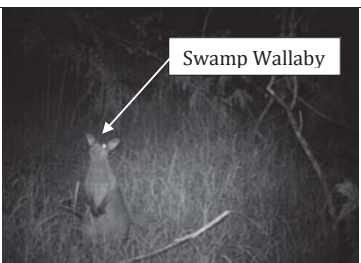
Table 2.5: Hollow-bearing trees on or immediately adjacent to the subject .

Tree number	Tree species/ type / size	Hollow details	Location	Fate
HBT 1	Dead stag, 40cm DBH	Vertical spout + trunk and branch hollows, 20-30cm entry sizes	In footprint	Remove
HBT 2	Dead stag, 55cm DBH		In footprint	Remove
HBT 3	Dead stag		In footprint	Remove
HBT 4	Dead stag	Numebr of hollows of various sizes	In footprint	Remove
HBT 5	Half dead tree <i>Eucalyptus tereticornis</i> Forest Red Gum	Many hollows and cracks of various sizes	Park 1	Retain
HBT 6	Dead stag		In adjacent unformed road to west	Retain
HBT 7	<i>Lophostemon confertus</i> Brush Box	Basal hollow	Park 2 – boundary	Retain
HBT 8	Dead stag	3 branch hollows, 25 cm entry	In adjacent unformed road to west	Retain
HBT 9	Dead stag	3 large branch hollows	In adjacent unformed road to west	Retain
HBT 10	Dead stag	Broken trunk Branch hollows (small entry)	In footprint	Remove
HBT 11	Dead stag, large tree	Hollow in arboreal termite nest Branch hollow (small entry)	In footprint	Remove
HBT 12	Dead stag, large tree	Branch hollow, medium size small branch hollow	In footprint	Remove
HBT 13	<i>Lophostemon confertus</i> Brush Box	Broken trunk Medium branch hollow Small hollow Scratches on trunk	In footprint	Remove
HBT 14	Dead stag, large tree	Branch hollow, medium size small branch hollow	In footprint	Remove
HBT 21	<i>Lophostemon confertus</i> Brush Box, 100cm DBH	Small-medium trunk and branch hollows	In footprint	Remove

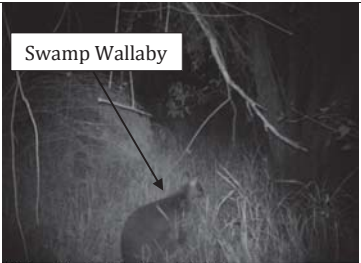
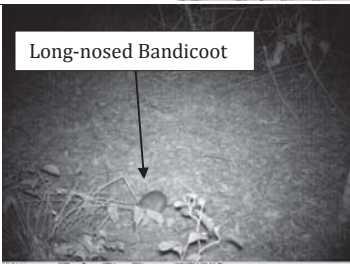
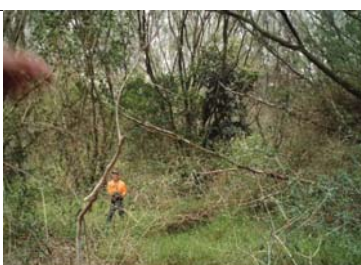
Table 2.6: Koala scat survey results. Surveys were undertaken in accordance with the Spot Assessment Technique (SAT) utilised by the Australian Koala Foundation. The SAT is used to assess the Koala activity within the immediate area surrounding a tree known to be utilised by the species or is considered to be of importance to the species conservation.

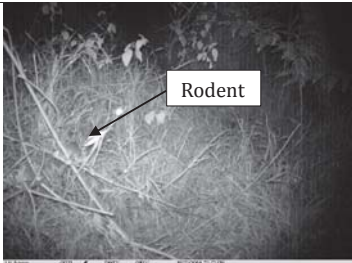
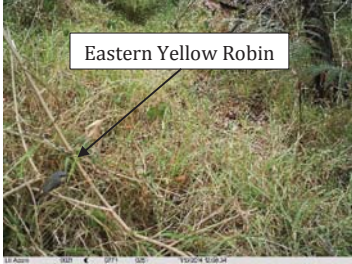
Date	Koala Scat Search No.	Trigger tree species	Numbers of tree species within search zone									Koala scats found Yes/No
			<i>Corymbia intermedia</i> Pink Bloodwood	<i>Lophostemon confertus</i> Brush Box	Rainforest sp.	<i>Acacia</i> sp.	<i>Banksia</i> sp.	<i>Melaleuca</i> sp.	<i>Eucalyptus propinqua</i> Small-fruited Grey Gum	<i>Melaleuca quinquenervia</i> Broad-leaved Paperbark	<i>Eucalyptus tereticornis</i> Forest Red Gum	
12.11.14	KSS 1	<i>Corymbia intermedia</i> Pink Bloodwood	3	6	7	14						No
12.11.14	KSS 2	<i>Corymbia intermedia</i> Pink Bloodwood	8			22						No
12.11.14	KSS 3	<i>Corymbia intermedia</i> Pink Bloodwood	2	1		27						No
12.11.14	KSS 4	<i>Corymbia intermedia</i> Pink Bloodwood	6	4	4	12	4					No
12.11.14	KSS 5	<i>Corymbia intermedia</i> Pink Bloodwood	6		2	8	1	13				No
12.11.14	KSS 6	<i>Corymbia intermedia</i> Pink Bloodwood	4		5	4		17				No
12.11.14	KSS 7	<i>Eucalyptus tereticornis</i> Forest Red Gum	4	2	3	18					4	No
27.11.14	KSS 8	<i>Lophostemon confertus</i> Brush Box		1		28	1					No
27.11.14	KSS 9	<i>Eucalyptus tereticornis</i> Forest Red Gum	7	3		19					1	No
26.11.14	KSS 10	<i>Corymbia intermedia</i> Pink Bloodwood	3	1	3	6						No
26.11.14	KSS 11	<i>Corymbia intermedia</i> Pink Bloodwood	2			26	2					No
27.11.14	KSS 12	<i>Eucalyptus propinqua</i> small-fruited grey gum		2		26			2			No
27.11.14	KSS 13	<i>Eucalyptus propinqua</i> small-fruited grey gum				23	6		1			No
27.11.14	KSS 14	<i>Corymbia intermedia</i> Pink Bloodwood	9	16							5	No

Table 2.7: Camera trap results.

Area	Camera number	Habitat shot	Fauna
	1		No fauna detected.
	2		No fauna detected.
	3		 
	4		No fauna detected.
	5		 
	6		

	7		No fauna detected.
	8		No fauna detected.
	9		No fauna detected.
	11		
	12		No fauna detected.
	13		
	14		No fauna detected.

	15		No fauna detected.
	16		 Swamp Wallaby
	17		 Long-nosed Bandicoot  Wonga pigeon  Rufous fantail  Fox  Swamp Wallaby
	18		No fauna detected.
	19		No fauna detected.

	20		No fauna detected.
	21		   
	22		No fauna detected.
	23		
	24		
	25		

26		
27		
28		
29		No fauna detected.
30		
31		  

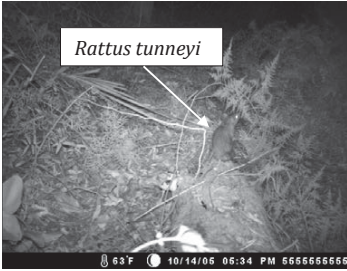
	32	 76°F 10/11/05 11:13 AM 5555555555	 Rattus tunneyi 63°F 10/14/05 05:34 PM 5555555555	 Land mullet 76°F 10/12/05 09:13 AM 5555555555
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Table 2.8: Fauna species of conservation significance recorded within 10 km of subject site. E = Endangered, EPop = Endangered Population, Ext = Extinct, V = Vulnerable, Source: OEH Wildlife Atlas database, 2015.

Fauna Group	Scientific Name	Status TSC Act (1995)	Status EPBC Act (1999)	Habitat Requirements	Suitability of Site	Survey considerations	Likelihood to occur	Impact assessment
Amphibian	<i>Litoria brevipalmata</i> Green-thighed Frog	V	-	Occurs in range of forested habitats where surface water gathers after rain.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Amphibian	<i>Litoria olongburensis</i> Olongburra Frog	V		An 'acid' frog confined to coastal sandplain wallum swamps.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Amphibian	<i>Crinia tinnula</i> Wallum Froglet	V	-	Found only in acid paperbark swamps and sedge swamps.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Reptile	<i>Caretta caretta</i> Loggerhead Turtle	E	-	Terrestrial habitat restricted to tropical beaches.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Reptile	<i>Chelonia mydas</i> Green Turtle	V	-	Terrestrial habitat restricted to marine beaches.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Reptile	<i>Cacophis harrietae</i> White-crowned Snake	V	-	Occurs near coastal areas on low to mid elevations of dry eucalypt forest and woodland. Found particularly in areas with a well-developed litter layer and fallen timber to forage for their prey.	Marginally suitable potential habitat on site.	Most active form mid spring to mid autumn.	Only 1 record known from broader study area, 8km south on the other side to the Clarence River in 2004. Low likelihood to occur.	No further impact assessment required.
Bird	<i>Dromaius novaehollandiae</i> Emu population in the NSW North Coast Bioregion and Port Stephens local government area	EPop	-	Occurs in predominantly open lowland habitats, including grassland, heathland, shrubland, woodland, forest, swamp and sedge communities, plantations, open farmland and occasionally littoral rainforest.	Suitable potential habitat on site.	Detectable all year.	This population occurs on site with a number of scats found.	Further impact assessment required.
Bird	<i>Phaethon lepturus</i> White-tailed Tropicbird	-	M	Migratory species found over pelagic waters feeding on small fish.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Thalasarche melanophris</i> Black-browed Albatross	V	V	Terrestrial habitat confined to offshore islands.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Ardeona carneipes</i> Flesh-footed Shearwater	V	-	Terrestrial habitat confined to Lord Howe Island.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Macronectes giganteus</i> Southern Giant Petrel	E	E	Terrestrial habitat confined to offshore islands just north of the Antarctic circle.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Fregata ariel</i> Lesser Frigatebird	-	M	A migratory species found on remote islands and breeds in bushes, mangroves and on the ground.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Fregata minor</i> Great Frigatebird	-	M	A migratory species found in tropical waters and breeding in mangroves and bushes.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Ardeanna pacificus</i> Wedge-tailed Shearwater	-	M	Breeds on offshore islands along NSW coast. Absent from NSW from May to August.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Ardeanna tenuirostris</i> Wedge-tailed Shearwater	-	M	Breeds on offshore islands from SA to Broughton Island, north of Newcastle. After breeding, wholly absent from Australia from May to September.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Phaethon rubricauda</i> Red-tailed Tropicbird	V	-	Terrestrial habitat confined to oceanic islands.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.

Fauna Group	Scientific Name	Status TSC Act (1995)	Status EPBC Act (1999)	Habitat Requirements	Suitability of Site	Survey considerations	Likelihood to occur	Impact assessment
Bird	<i>Ardea ibis</i> Cattle Egret	-	M	Widespread, common and expanding. Occurs in grasslands, wooded lands and wetlands. Most commonly found foraging with livestock. Roosts in trees in or near lakes and swamps. Breeds in colonies in wooded swamps.	No suitable habitat on or near the site within the zone of influence.		Recorded in the local area in suitable habitat during survey. Low to no likelihood to occur.	No further impact assessment required.
Bird	<i>Ixobrychus flavicollis</i> Black Bittern	V	-	Occurs in freshwater and estuarine wetlands.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Egretta sacra</i> Eastern Reef Egret	-	M	Lives on exposed reefs, rocky shores, beaches, mudflats, islands. Roosts and nests in woodland, scrub adjacent to beaches.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Ephippiorhynchus asiaticus</i> Black-necked Stork	E	-	Inhabits permanent freshwater wetlands	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Plegadis falcinellus</i> Glossy Ibis	-	M	Frequents swamps and lakes throughout much of the Australian mainland. Breeds in colonies with other waterbirds; nests in trees or shrubs growing in water.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Pandion cristatus</i> Eastern Osprey	V	-	Favours coastal areas and requires an extensive area of open fresh, brackish or saline water for foraging.	No suitable habitat on or near the site within the zone of influence.		Recorded in the local area in suitable habitat during survey. Observed nesting in artificial breeding sites erected in the township and along the Clarence River. No likelihood to occur on site.	Further impact assessment required.
Bird	<i>Erythrorhynchus radiates</i> Red Goshawk	E	V	Inhabit open woodland and forest, preferring a mosaic of vegetation types, a large population of birds as a source of food, and permanent water, and are often found in riparian habitats along or near watercourses or wetlands. In NSW, preferred habitats include mixed subtropical rainforest, Melaleuca swamp forest and riparian Eucalyptus forest of coastal rivers. Breeding habitat within 1km of permanent water, often adjacent to rivers or clearings. Usually one of the tallest trees is selected for the nest location.	Suitable potential habitat on site.	Detectable all year.	Only 1 record from the broader study area, dating from 1987, 5 km west of Iluka. Low likelihood to occur.	No further impact assessment required.
Bird	<i>Lopholctinia isura</i> Square-tailed Kite	V	-	Found in timbered habitats with a particular preference for timbered watercourses.	Suitable potential habitat on site.	Detectable all year.	Only 5 records were identified with the closest being 3km north east of the subject site in 1984 and the most recent being 8km west of the subject site in 1991. This species was observed nearby during survey. High likelihood to occur.	Further impact assessment required.
Bird	<i>Hamirostra melanosternon</i> Black-breasted Buzzard	V	-	Lives in a range of inland habitats, especially along timbered watercourses and in areas with less than 500mm of rainfall. Specializes in eating large eggs, including emu eggs.	Marginally suitable potential foraging habitat on site.	Detectable all year.	Only 1 record from the broader study area, dating from 1981, in Iluka township. Low likelihood to occur.	No further impact assessment required.

Fauna Group	Scientific Name	Status TSC Act (1995)	Status EPBC Act (1999)	Habitat Requirements	Suitability of Site	Survey considerations	Likelihood to occur	Impact assessment
Bird	<i>Haliaeetus leucogaster</i> White-bellied Sea-eagle	-	M	Most commonly seen foraging over water bodies or near coastal waters; will occasionally forage over open country for carrion. Highly mobile and travels long distances. Nests and roosts high in trees in well-timbered country.	Marginally suitable potential nesting habitat on site.		Large number of records (>120) in the broader study area. Observed nesting in golf course to the north of the subject site. Low likelihood to occur on the subject site.	No further impact assessment required.
Bird	<i>Circus assimilis</i> Spotted Harrier	V	-	Found in tropical and temperate open wooded country, particularly in arid and semi-arid areas. Partly nomadic, in response to local conditions. Hunts low over the ground, favoured prey are ground birds; will also take mice, rats, rabbits and lizards.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Bird	<i>Grus rubicunda</i> Brolga	V	-	Abundant in the northern tropics, but very sparse across the southern part of its range. Often forage in dry grassland, ploughed paddocks or desert claypans but dependent on wetlands, especially shallow swamps.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Burhinus grallarius</i> Bush Stone-curlew	E	-	Inhabits open forests and woodlands with a sparse grassy ground layer and fallen timber	Marginally suitable potential habitat on site; probably weed infestations too dense.	Detectable all year.	Only 3 records from the broader study area with the closest and most recent being 1km west of the subject site in 2010. Low likelihood to occur.	No further impact assessment required.
Bird	<i>Esacus neglectus</i> Beach Stone-curlew	CritE	-	Occurs on open, undisturbed beaches and estuaries	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Haematopus longirostris</i> Australian Pied Oystercatcher	E	-	Favours intertidal flats of inlets and bays, open beaches and sandbanks	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.
Bird	<i>Haematopus fuliginosus</i> Sooty Oystercatcher	V	-	Occurs on rocky headlands and exposed reefs, beaches and muddy estuaries	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.
Bird	<i>Charadrius mongolus</i> Lesser Sand-plover	V	-	Occurs on beaches, harbours and estuaries with large intertidal sand flats or mudflats	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Charadrius leschenaultia</i> Greater Sand-plover	V	-	Occurs mainly on sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Tringa brevipes</i> Grey-tailed Tattler	-	M	Estuaries, wave-washed rocks and reefs, waterways in mangroves, tidal mudflats, beaches. Overwinters in southern hemisphere.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
	<i>Tringa incana</i> Wandering Tattler	-	M	Found on rocky coasts with reefs and platforms. Forages among rocks, shingles and shallow pools.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Numenius phaeopus</i> Whimbrel	-	M	Estuaries, channels among mangroves, tidal flats, coral cays, flat exposed reefs, flooded paddocks, occasionally sewage farms, bare grasslands, sportsgrounds, lawns. Winters in southern hemisphere.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.

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Bird	<i>Numentius madagascariensis</i> Eastern Curlew	-	M	Mainly coastal: sandspits, mudflats, waterways in saltmarsh, mangroves; occasionally fresh or brackish lakes, bare grassland near water.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris ruficollis</i> Red-necked Stint	-	M	Tidal mudflats, saltmarsh, sandspits, sandy or shell-grit beaches, shallow margins of salt or freshwater lakes often far inland, sewage farms. Winters in southern hemisphere.	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.
Bird	<i>Arenaria interpres</i> Ruddy Turnstone	-	M	Tidal reefs and pools, weed-covered rocks washed by surf, pebbly shores, mudflats, occasionally inland shallow waters, sewage farms or bare open ground near coast. Winters in southern hemisphere.	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.
Bird	<i>Pluvialis fulva</i> Pacific Golden Plover	-	M	Widespread in non-breeding season in coastal Australasia, Melanesia and Polynesia. Usually in coastal habitats (beaches, mudflats, sandflats, mangroves, saltmarsh, seagrass), though occasionally in inland wetlands.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Pluvialis squatarola</i> Grey Plover	-	M	Occurs along coastal areas except for breeding sites which occur in tundra, often in drier areas.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Tringa nebularia</i> Common Greenshank	-	M	Breeds in the Palaearctic. In Australia over summer, on coast and inland, in estuaries, mudflats, mangrove swamps and lagoons.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris tenuirostris</i> Great Knot	V	M	Occurs in sheltered, coastal habitats with large, intertidal mudflats / sandflats. Often on sandy beaches with mudflats nearby, sandy spits and islets; sometimes on exposed reefs or rock platforms. Migrates to Australia from late Aug to early Sep.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Gallinago hardwickii</i> Latham's Snipe	-	M	Non-breeding migrant to Australia in the warmer months. Found in dense cover in any vegetation around wetlands, also saltmarsh and creek edges when migrating.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Limicola falcinellus</i> Broad-billed Sandpiper	V	-	Favours sheltered parts of coast (estuarine sandflats, mudflats, harbours, lagoons, saltmarshes, reefs) for feeding / roosting. Occasionally seen in sewage farms or shallow freshwater lagoons. Roosts on banks on sheltered sand, shell or shingle beaches.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Limosa limosa</i> Black-tailed Godwit	V	-	Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats along coast.	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.

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Bird	<i>Xenus cinereus</i> Terek Sandpiper	V	M	Occurs on coastal mudflats, lagoons, creeks and estuaries	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Tringa stagnatilis</i> Marsh Sandpiper	-	M	Summer migrant, in Australia from August to April. Commonly seen in fresh or brackish wetlands such as rivers, water meadows, sewage farms, drains, lagoons and swamps.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Actitis hypoleucos</i> Common Sandpiper	-	M	Found on muddy edges or rocky shores of coastal or inland wetlands, saline or fresh. Breeds in Eurasia and part of the population overwinters in Australia.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris acuminata</i> Sharp-tailed Sandpiper	-	M	Summer migrant to Australia from the Arctic. Prefers grassy edges of shallow inland freshwater wetlands. Found also on sewage farms, flooded fields, mudflats, mangroves, beaches and rocky shores.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris canutus</i> Red Knot	-	M	Breeds in the Arctic and flies non-stop to Australia. Feed in large flocks on the coast in sandy estuaries with tidal mudflats.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Limosa lapponica</i> Bar-tailed Godwit	-	M	Tidal mudflats, estuaries, sewage farms; occasionally on shallow river-margins, brackish or salty inland lakes, flooded pastures, airfields. Needs soft sand / mud. Winters in southern hemisphere.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris ferruginea</i> Curlew Sandpiper	E	M	Breeds in Siberia and migrates to Australia in warmer months. Forages in shallow water of intertidal mudflats of sheltered coasts. Roosts on beaches, spits/islets, saltmarsh or on rocky shore.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris melanotos</i> Pectoral Sandpiper	-	M	Prefer shallow fresh to saline wetlands. Found near the coast.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Calidris alba</i> Sanderling	V	-	Found in coastal areas on low beaches of firm sand, near reefs and inlets, along tidal mudflats and bare open coastal lagoons; individuals are rarely recorded in near-coastal wetlands.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Stercorarius parasiticus</i> Arctic Jaeger	-	M	Coastal offshore waters, larger bays, occasionally coastal inlets, lakes, usually in storms. Overwinters in southern hemisphere.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Anous stolidus</i> Common Noddy	-	M	This species occurs in groups in the pelagic zone. Breeding occurs on or near islands on grass, rock or among coral rubble.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.
Bird	<i>Onychoprion fuscatus</i> Sooty Tern	V	-	Terrestrial habitat confined to offshore islands.	No suitable habitat on site.		No likelihood to occur.	No further impact assessment required.

Fauna Group	Scientific Name	Status TSC Act (1995)	Status EPBC Act (1999)	Habitat Requirements	Suitability of Site	Survey considerations	Likelihood to occur	Impact assessment
Bird	<i>Sterna hirundo</i> Common Tern	-	M	Offshore waters, beaches, reefs, bays, tidal mudflats, lower reaches of larger rivers with sandbars, sewage farms, occasionally swamps near coast. Overwinters in southern hemisphere.	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.
Bird	<i>Sterna caspia</i> Caspian Tern	-	M	Large waters generally, fresh or salt lakes, larger rivers, reservoirs, estuaries, tidal mudflats, beaches, shallow coastal waters.	No suitable habitat on site.		Low to no likelihood to occur.	No further impact assessment required.
Bird	<i>Sternula albifrons</i> Little Tern	E	-	Prefers sheltered coastal environments; may occur several kms from the sea in harbours, inlets and rivers. Nests in small colonies in low dunes or on sandy beaches just above high tide mark near estuary mouths or adjacent to coastal lakes and islands.	No suitable habitat on or near the site within the zone of influence.		Observed in the local area during survey. No likelihood to occur on site.	No further impact assessment required.
Bird	<i>Ptilinopus magnificus</i> Wompoo Fruit-dove	V	-	Occurs in rainforest.	Suitable potential habitat on site.	Detectable when feeding in suitable habitat.	3 records from the broader study area were identified with the closest being 1km east of the subject site in 1979 and the most recent being 5km north of the subject site in 1994. A large number of rainforest flora species High likelihood to occur.	Further impact assessment required.
Bird	<i>Ptilinopus regina</i> Rose-crowned Fruit-dove	V		Occurs in rainforest.	Suitable potential habitat on site.	Detectable all year.	79 records from the broader study area with the closest being 1km east of the subject site in 1985 and the most recent being 8km west of the subject site in 2004. This species was observed nearby in Iluka NR and was heard on site. High likelihood to occur.	Further impact assessment required.
Bird	<i>Calyptrorhynchus lathami</i> Glossy Black-Cockatoo	V	-	Breeds in large hollow-bearing trees in forest and forages on <i>Allocasuarina</i> species.	Suitable potential habitat on site.	Detectable all year.	10 records from the broader study area with the closest and most recent being 3km east of the subject site in 2012. Characteristically chewed cones were observed by Fitzgerald (2005) under an <i>Allocasuarina littoralis</i> at the northern edge of the subject site.	Further impact assessment required.
Bird	<i>Glossopsitta pusilla</i> Little Lorikeet	V	-	Mostly in dry open eucalypt forests and woodlands. Feeds on tree nectar and pollen, particularly profusely-flowering eucalypts, but also melaleucas and mistletoes and mistletoe fruit. Nomadic, movements probably related to food availability.	Suitable potential habitat on site.	Detectable all year.	12 records from the broader study area with the closest being 1km east of the subject site in 1989 and the most recent being 5km south of the subject site in 2012. High likelihood to occur.	Further impact assessment required.
Bird	<i>Pezoporus wallicus wallicus</i> Eastern Ground Parrot	V	-	Occurs in high rainfall coastal low heathlands and sedgelands, that provide very dense cover (90% or more) and below one metre in height.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Bird	<i>Tyto novaehollandiae</i> Masked Owl	V	-	Occurs in forests, but often hunts along forest edges such as roadsides.	Suitable foraging habitat on site.	Detectable all year.	Only 1 record from the broader study area being 3km west of the subject site in 1998. Much more common in the hinterland forests. Low likelihood to occur.	No further impact assessment required.

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Bird	<i>Tyto longimembris</i> Eastern Grass Owl	V	-	Occur in areas of tall grass, including swampy areas, grassy plains, swampy heath, cane grass, or sedges on floodplains.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Bird	<i>Ninox connivens</i> Barking Owl	V	-	Occurs in eucalypt woodland, open forest, swamp woodlands and timbered watercourses. Occasionally uses dense vegetation for roosting. Breeds in hollows in large old trees.	Marginally suitable habitat on site.	Detectable all year.	5 records from the broader study area with the closest being 1km south of the subject site in 1981 and the most recent being 8km north west of the subject site in 2009. Moderate likelihood to occur.	No further impact assessment required.
Bird	<i>Ninox strenua</i> Powerful Owl	V	-	Usually roosts in dense vegetation and hunts for arboreal mammals across large home range.	Marginally suitable habitat on site.	Detectable all year.	4 records from the broader study area were identified with the closest being 4km north of the subject site in 1980 and the most recent being 5km west of the subject site in 2012. Moderate likelihood to occur.	No further impact assessment required.
Bird	<i>Apus pacificus</i> Fork-tailed Swift	-	M	Almost exclusively aerial, flying over most habitat types. Arrive from Siberia in spring and depart in autumn. Feed on edge of low pressure systems. Threats to this species in Australia are negligible.	No suitable habitat on site.		Low to no likelihood to occur.	No further impact assessment required.
Bird	<i>Hirundapus caudacutus</i> White-throated Needletail	-	M	Non-breeding popn migrates from Asia in spring and departs autumn along either side of Gt Div Rge. Most of its time spent feeding on the wing, high along storm fronts. Roosts infrequently in terrestrial habitats and terrestrial habitat largely irrelevant.	Suitable potential habitat on site.		Observed flying overhead during fauna surveys. Low likelihood to use terrestrial habitats of the subject site.	Further impact assessment required.
Bird	<i>Merops ornatus</i> Rainbow Bee-eater	-	M	Occurs in many habitats where there are open areas for foraging, well-placed perches to from which to forage, a water source and breeding habitat such as sandy creek banks.	Suitable potential habitat on site.		Large number (>100) records from the broader study with the closest being within 1km north of the subject site in 1978 and the most recent being 4km south of the subject site in 2012. This species was observed foraging and nesting on site.	Further impact assessment required.
Bird	<i>Coracina lineata</i> Barred Cuckoo-shrike	V		Occurs in rainforest and large tracts of eucalypt forest.	Suitable potential habitat on site.	Detectable all year.	10 records from the broader study with the closest being 1km south east of the subject site in 1979 and the most recent being 2km north of the subject site in 1992. This species was observed nearby at the time of survey. High likelihood to occur.	Further impact assessment required.
Bird	<i>Carterornis leucotis</i> White-eared Monarch	V		Occurs in rainforest, especially littoral rainforest and swamp forest. Prefers the ecotone between open vegetation and rainforest.	Suitable potential habitat on site.	Detectable all year.	50 records from the broader study with the closest being less than 1km east of the subject site in 1993 and the most recent being 3km north of the subject site in 2013. High likelihood to occur.	Further impact assessment required.
Bird	<i>Pomatostomus temporalis</i> Grey-crowned Babbler	V	-	In NSW, occurs from upper Hunter Valley to the western slopes in Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Central Coast record is probably a misidentification or vagrant.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Bird	<i>Daphoenositta chrysoptera</i> Varied Sittella	V	-	Found in eucalypt woodlands and forests, preferring rough-barked trees or	Suitable potential habitat on site.	Detectable all year.	8 records from the broader study with the closest being 1km south of the subject site in 1978 and	Further impact assessment required.

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Bird				mature trees with hollows or dead branches.			the most recent being 9km north west of the subject site in 2001. Observed foraging on site.	
	<i>Lichenostomus fasciocularis</i> Mangrove Honeyeater	V	-	Primary habitat in mangrove and shrublands but may also range into adjacent forests. Forages in mangroves.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Mammal				Occurs in a number of forest habitats but requires large areas of relatively intact forest.	Suitable potential habitat on site.	Detectable all year.	16 records from the broader study area with the closest and most recent being 1km south of the subject site in 2004. However, most records date from the 1970s and 1990s and have been generated by a community survey that often generates records of uncertain dates. It is likely that the local population of this species persists only in very low numbers, if at all. Low likelihood to occur.	No further impact assessment required.
Mammal	<i>Phascogale tapoatafa</i> Brush-tailed Phascogale	V	-	Prefers dry sclerophyll open forest with sparse ground cover.	Marginally suitable potential habitat on site.	Detectable all year, but particularly in mating season (May-July) when males are seeking mates.	16 records from the broader study area with the closest being within 1km of the subject site in 1991 and the most recent being 9km west of the subject site in 2002. Low likelihood to occur.	No further impact assessment required.
Mammal	<i>Planigale maculata</i> Common Planigale	V	-	Occurs in a range of forest, heath and marshland where there is surface cover and usually close to water.	No suitable habitat on site.		Low likelihood to occur.	No further impact assessment required.
Mammal	<i>Phascogale cinereus</i> Koala	V	V	Inhabits eucalypt woodlands and forests.	Suitable habitat on site.	Detectable all year.	A large number of records from the broader study area (>315) as the Illuka population has been well studied. Thought to be (at least functionally) extinct. The most recent record was 5km north west of the subject site in 2013. This species was photographed on site by camera trap during survey.	Further impact assessment required.
Mammal	<i>Petaurus australis</i> Yellow-bellied Glider	V	-	Favours tall mature eucalypt forest in areas with high rainfall and nutrient rich soils.	No suitable habitat on site.		Low to no likelihood to occur.	No further impact assessment required.
Mammal	<i>Petaurus norfolcensis</i> Squirrel Glider	V		Inhabits Blackbutt- Bloodwood forests with heath understorey in coastal areas.	Marginally suitable potential habitat on site. Poor foraging habitat, some denning sites.	Detectable all year.	24 records within the broader study area with the closest being less than 1km south of the subject site in 2010 and the most recent being 5km south of the subject site in 2012. Moderate likelihood to occur.	No further impact assessment required.
Mammal	<i>Aepyprymnus rufescens</i> Rufous Bettong	V	-	Inhabits a variety of forests from tall, moist eucalypt forest to open woodland, with a tussock grass understorey. A dense cover of tall native grasses is the preferred shelter.	Marginally suitable potential habitat on site.	Detectable all year.	Only 1 record within the broader study area being 5km west of the subject site (on the other side of the Highway and the river), dating from 2012. No records east of the highway and none on or near the Illuka peninsula. Low likelihood to occur.	Further impact assessment required.
Mammal	<i>Pteropus poliocephalus</i> Grey-Headed Flying-fox	V	V	Foraging habitat in flowering eucalypts, particularly winter-flowering species; camps in dense wet forest or rainforest gullies.	Suitable potential foraging habitat on site.	Detectable when foraging habitat fruiting and/or flowering.	70 records within the broader study area with the closest being 1km to the east in 1994 and the most recent being 4km to the south in 2012. High likelihood to occur.	Further impact assessment required.

Fauna Group	Scientific Name	Status TSC Act (1995)	Status EPBC Act (1999)	Habitat Requirements	Suitability of Site	Survey considerations	Likelihood to occur	Impact assessment
Mammal	<i>Syconycteris australis</i> Common Blossom-bat	V		Roosts in littoral rainforest and feeds on flowers (particularly Banksia) in adjacent heathland and paperbark swamps.	Suitable potential habitat on site.	Detectable all year.	21 records within the broader study area with the closest being 1 km to the east in 1990 and the most recent being 6 km to the south in 2006. A breeding population of this species occurs adjacent to the subject site in Iluka NR. High likelihood to occur.	Further impact assessment required.
Mammal	<i>Mormopterus norfolkensis</i> Eastern Freetail-bat	V	-	Occur in dry sclerophyll forest and woodland, roost in hollows and man-made structures.	Suitable potential habitat on site.	Detectable all year.	2 records from within the broader study area with the closest and most recent being 3 km west of the subject site in 2002. This species was recorded foraging on site during survey.	Further impact assessment required.
Mammal	<i>Nyctophilus bifax</i> Eastern Long-eared Bat	V	-	Occurs in lowland subtropical rainforest and wet swamp eucalypt forest. Roosts in tree hollows, among epiphytes and dense clumps of rainforest foliage.	Marginally suitable foraging and roosting potential habitat on site.	Detectable all year.	76 records within the broader study area with the closest being 1 km to the east in 1994 and the most recent being 2 km to the south in 2008. A large number of records are from Iluka NR. Possibly recorded foraging on the site during survey. High likelihood to occur.	Further impact assessment required.
Mammal	<i>Miniopterus schreibersii oceanensis</i> Eastern Bent-wing Bat	V	-	Roosts in caves and forages above tree canopies.	Suitable potential habitat on site.	Most active mid spring to mid autumn.	Only 2 records from the broader study area 1998 and 2001. Low likelihood to occur.	No further impact assessment required.
Mammal	<i>Miniopterus australis</i> Little Bentwing-bat	V	-	Roosts in caves and forages beneath tree canopies.	Suitable potential foraging habitat on site.	Most active mid spring to mid autumn.	35 records from the broader study area with the closest being 1 km east of the subject site in 1984 and the most recent being 5 km south of the subject site in 2012. This species was recorded foraging on site during survey.	Further impact assessment required.
Mammal	<i>Chalinolobus nigrogriseus</i> Hoary wattled bat	V	-	Roosts in tree hollows and forages in open understorey of dry open eucalypt forests dominated by Spotted Gum, boxes and ironbarks, and heathy coastal forests where Red Bloodwood and Scribbly Gum are common. Flies fast below the canopy.	No potential habitat on site.		Low likelihood to occur.	No further impact assessment required.
Mammal	<i>Myotis macropus</i> Large-footed Myotis	V	-	Forages over large bodies of water and roosts in hollows or under old wooden bridges, sometimes up to 10 km from foraging habitat.	Suitable potential roosting habitat on site in the hollow-bearing trees.	Detectable all year.	25 records from the broader study area with the closest being 5 km south west of the subject site in 2003 and the most recent being 10 km west of the subject site in 2015. No records of this species from the Iluka peninsula and all known roosting sites beneath bridges over the Clarence River and its tributaries. Low likelihood to occur.	No further impact assessment required.
Mammal	<i>Scoteanax rueppellii</i> Greater Broad-nosed Bat	V	-	Found in a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though most commonly found in tall wet forest. Roosts in tree hollows and forages over creeks and other corridors in forest.	Marginally suitable potential habitat on site; probably too cluttered with Lantana.	Most active mid spring to mid autumn.	Only 6 records from the broader study area with closest and most recent being 2 km south of the subject site in 2008. Moderate likelihood to occur.	No further impact assessment required.