Fauna Survey at the northern fore dune section of the eastern end of Tanah Street East, Yaroomba, Queensland for Coolum District Coast Care Inc.



Report written by the Wildlife Preservation Society of Queensland Sunshine Coast and Hinterland Branch Inc. through the Faunawatch program.

Ву

Paul Smith and observational recordings by Rob Kernot.

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1. Introduction

The Wildlife Preservation Society of Queensland Sunshine Coast and Hinterland Branch Inc. (WPSQSCH) was contracted by Coolum District Coast Care Inc. to undertake a fauna survey at the fore dune section north of Tanah St East.

This survey uses a suite of techniques to record a wide range of vertebrate fauna that are most likely to be present in the target site. Opportunistic sightings of non-vertebrate fauna recorded during field work are also provided.

2. Methods

2.1 Study Site

The survey site is located at the eastern end of Tanah St East, Yaroomba, Queenland and runs north for approximately 620 metres. It is situated between the South Pacific Ocean to the east and housing development to the west. It comprises of fore dune complex backing onto Palustine wetland with closed heath and seasonally waterlogged sandplains. Within the test site there is some variation within the vegetation complexes based on small changes in relief. This results in poorly drained quaternary dunes from overflow and infiltration at low points of the sand mass to sparse open vegetated grassland at the dune front. Primary vegetation species include Casuarina, Banksia robur/integrifolia, Pandanus, Melaleuca and Baeckea.









Fig. 1 Two locations on the survey site showing the closed canopy and the more open lower relief swamp area.

2.2 Hair-tube Sampling

Twenty hair-tube traps were set on the site (Fig. 2). These work by using a food source to attract fauna to the trap and collecting a hair sample on a strip of adhesive tape as the animal tries to eat the bait. The hair sample is analysed by microscopy to identify the species as every species will have a different visual fingerprint.





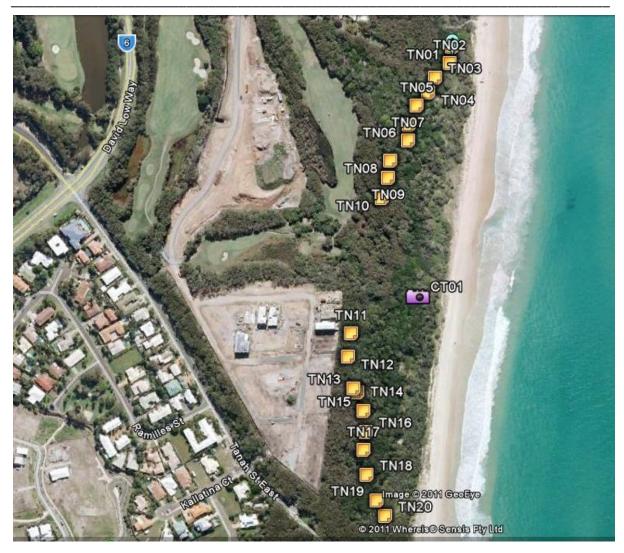


Fig. 2. Hair-tube trap locations TN1-20 and Camera Trap location CT01

Two types of traps were used to maximise the chance of attracting trap-shy individuals (i) Faunatech (Bainsdale Vic.) (Fig. 3), (ii) homemade trap (after Murray, 2005) (Fig. 4). The traps were baited with a mixture that should attract most mammals that are likely to populate the test site. The traps were set in 2 groups of ten due to the presence of a human walkway crossing the site. Each trap was laid 20 metres apart resulting in a total length of the trap run of 620 metres. The traps were checked 4 days after setup and retrieved after 7 nights. Hair samples were sent and analysed by Scats About (Majors Creeks, NSW).







Fig. 3. Faunatech Hair-tube Trap



Fig. 4. Homemade Hair-tube Trap.





2.3 Camera Trap

To attract carnivores and omnivores a motion detecting video camera was set up on the survey site. An uncooked chicken frame was wired to a horizontal tree limb 1 metre off ground level. The camera was positioned 2 metres away pointing at the bait with a clear visual path. The camera is activated by body heat and motion moving within its field of view. This event triggers a video capture until 30 seconds after no motion is detected. The camera trap runs continuously for the 7 day survey.

2.4 General Survey

Opportunistic surveys were conducted four times over the survey period. This comprised of visual identification and call identification of vertebrates and non-vertebrates (birds, mammals, butterflies). Samples of scats were also taken and analysed. Due to specialised techniques and time restrictions although not specifically targeted reptiles, amphibians and insects identified during the survey were recorded. These surveys were conducted in two dedicated four hour blocks plus two eight hour blocks during trap setup and retrieval.





3 Results

69 species were recorded over the survey period. This consisted of 50 birds, 4 mammals, 2 amphibians, 3 butterflies, 7 insects and 3 reptiles (Table 1). No species recorded on the survey have a conservation status classification of vulnerable or higher.

Table 1. Summary of all species identified from Hair-tube Trapping, Camera Trap, Scat analysis and

Opportunistic survey.

Group	Common Name	Scientific Name				
Birds	Gull-billed Tern	Sterna nilotica				
	Sliver Gull	Larus novaehollandiae				
	Australian Brush-turkey	Alectura lathami				
	Brahminy Kite	Haliastur indus				
	White-bellied Sea-eagle	Haliaeetus leucogaster				
	Collar Sparrowhawk	Accipiter cirrhocephalus				
	Spotted Turtle-dove	Streptopelia chinensis				
	Bar-shouldered Dove	Geopelia humeralis				
	Topnot Pigeon	Lopholaimus antarcticus				
	Rainbow Lorikeet	Trichoglossus haematodus				
	Australian Figbird	Sphecotheres viridis				
	Australian Magpie	Gymnorhina tibicen				
	Australian White Ibis	Threskiornis molucca				
	Laughing Kookaburra	Dacelo novaeguineae				
	Sacred Kingfisher	Todirhamphus sanctus				
	Rainbow Bee-eater	Merops ornatus				
	Railibow Dee-eatel	Merops ornatus				
	Variegated Fairy-wren	Malurus lamberti				
	Red-backed Fairy-wren	Malurus melanocephalus				
	Striated Pardalote	Pardalotus striatus				
	White-browed Scrubwren	Sericornis frontalis				
	Mangrove Gerygone	Gerygone levigaster				
	Fairy Gerygone	Gerygone palpebrosa				
	Brown Thornbill	Acanthiza pusilla				
	Little Wattlebird	Anthochaera chrysoptera				
	Noisy Friarbird	Philemon corniculatus				
	Blue-faced Honeyeater	Entomyzon cyanotis				
	Lewins Honeyeater	Meliphaga lewinii				
	Brown Honeyeater	Lichmera indistincta				
	White-cheeked Honeyeater	Phylidonyris nigra				
	Dusky Honeyeater	Myzomela obscura				





Eastern Valley Pobin	Foncaltria australia

	Eastern Yellow Robin	Eopsaltria australis
	Eastern Whipbird	Psophodes olivaceus
	Lasterii Wilipbild	r soprioues olivaceus
	Little Shrike-thrush	Colluricincla megarhyncha
	Grey Shrike-thrush	Colluricincla harmonica
	Spectacled Monarch	Monarcha trivirgatus
	Magpie Lark	Grallina cyanoleuca
	Grey Fantail	Rhipidura albiscapa
	Rufous Fantail	Rhipidura rufifrons
	Spangled Drongo	Dicrurus bracteatus
	Black-faced Cuckoo-shrike	Coracina novaehollandiae
	Varied Triller	Lalage leucomela
	Olive Backed Oriole	Oriolus sagittatus
	Grey Butcherbird	Cracticus torquatus
	Pied Butcherbird	Cracticus nigrogularis
	Pied Currawong	Strepera graculina
	Torresian Crow	Corvus orru
	Mistletoebird	Dicaeum hirundinaceum
	Welcome Swallow	Hirundo neoxena
	Fairy Martin	Hirundo ariel
	Silvereye	Zosterops lateralis
Mammals	Northern Brown Bandicoot	Isodon macrourus
	Grassland Melomy	Melomys burtoni
	Ship Rat	Rattus rattus
	Swamp Wallaby	Wallabia bicolor
Butterflies	Black Jezebel	Delias nigrina
	Evening Brown	Melanitis leda
	Orchid Swallowtail	Papilio aegeus
Spiders	Bush Orb Weaver	Araneus eburnus
Opidoio	Russian Tent Spider	Cyrtophora parnasia
	Four-spined spider	Gasteracantha quadrispinosa
	Silver Orb Weaver	Leucauge dromedaria
	Salticid Anteater	Zenotorus orbiculatus
Wasps	Paper Wasp	Polistes sp.
	Hedge Grasshopper	Valanga irregularis
IIISECIS	ago Giaconoppoi	- sianga in ogalano
Insects		
Frogs	Stripped Marsh Frog Eastern Sedgefrog	Limnodynastes peronii Litoria fallax





Reptiles	Yellow Faced Whipsnake	Demansia psammophis		
	Garden Skink	Lampropholis delicata		
	Lace Monitor	Varanus varius		

The species were identified through the following;

3.1 Hair-tube Sampling

Sixteen of the twenty Hair-tube traps had signs of animal presence (Table 2). Hair samples were recorded in seven of twenty traps. These species were positively identified as Grassland Melomy (*Melomys burtoni*) in five traps, Rattus sp. in one trap, and Northern Brown Bandicoot (*Isodon macrourus*) in one trap. Two had the bait consumed by ants, two had the trap framework chewed, one had the bait ball chewed and one trap had evidence of digging at the side of the trap. These traps had no identifiable evidence left behind.

Table 2. Location and results for Hair-tube trapping.

Table 2. Location and results for Hair-tube trapping.							
Trap	Trap	UTM Co	ord (56J)	Hit	Result		
No.	Туре						
TN01	FT	509 896	706 2198	Υ	Grassland Melomy		
TN02	HM	509 893	706 2177	Р	Trap dug under at side		
TN03	FT	509 874	706 2158	Υ	Grassland Melomy		
TN04	HM	509 865	706 2139	Р	Trap dug under, bait ball chewed		
TN05	FT	509 850	706 2122	Υ	Grassland Melony & Rattus sp.		
TN06	НМ	509 840	706 2097	Р	Bait ball chewed		
TN07	FT	509 839	706 2077	Υ	Grassland Melony		
TN08	НМ	509 816	706 2051	Υ	Melomy sp.		
TN09	FT	509 813	706 2029	Υ	Grassland Melomy Probable		
TN10	HM	509 805	706 2003	Υ	Northern Brown Bandicoot		
TN11	FT	509 765	706 1829	Ρ	Ants consumed bait		
TN12	HM	509 761	706 1799	Ν			
TN13	FT	509 768	706 1758	Р	Ants consumed bait		
TN14	HM	509 773	706 1753	Ν			
TN15	FT	509 781	706 1729	Ν			
TN16	HM	509 784	706 1702	Р	Bait ball chewed		
TN17	FT	509 781	706 1679	Ν			
TN18	HM	509 785	706 1647	Р	Trap holding tape chewed		
TN19	FT	509 798	706 1614	Ν			
TN20	НМ	509 809	706 1594	Р	Trap holding tape chewed		

Traps TN01 to TN10 were placed 7°N between two access paths from the Hyatt Development, traps TN11 to TN20 were placed running 353°N between one access path and the Tanah St East beach access path.

Note: Trap type are labelled as Faunatech Trap type (FT) or Home Made type (HM). Hits are labelled as Yes (Y), Partial (P) or No (N).





3.2 Camera trap

The camera trap was activated by two species (Table 3). Over thirty minutes of footage was gathered of a male Australian Brush Turkey (*Alectura lathami*) feeding on the chicken carcass bait. Although the presence of the species in the area was known the behaviour of the individual was still notable.



Fig 5. Australian Brush Turkey (Alectura lathami) seen at the Tanah St East end of the survey site.

Within its time at the bait station the brush turkey was seen to consume all off the bait and managed to disassemble the carcass from the stainless steel wire that was securing it to the tree. The brush turkey did such a good job of cleaning the area of all bait pieces that searching the vicinity we could not locate any of the bones from the chicken carcass.

Forty five minutes after sunset a Ship Rat (*Rattus rattus*) was seen examining the camera trap site. It was present for approximately 200 seconds as it investigated the area for disturbance and presumably a food source. Due to the comprehensive job of the brush turkey eating the bait and cleaning the site the rat then left the field of view of the camera. It revisited the site 30 minutes later but left after another inspection of the bait area proved to be empty.

Table 3. Camera trap location and details.

Trap	Trap	UTM Coord (56J)		Hit	Result
No.	Type				
CT01	Camera	509 851	706 1877	Υ	Australian Brush Turkey, Ship
	- Video				Rat (Rattus rattus)





3.3 Track and Scat Survey

Scat samples were taken throughout the survey site. Microscopy analysis identified the samples as belonging to Swamp Wallabies (*Wallabia bicolor*). This would be consistent with a medium to high density of wallaby "pathways" running through the site and bedding locations. One hair sample taken from a scat was identified as either belonging to a Swamp Wallaby (*Wallabia bicolor*) or Black Stripped Wallaby (*Macropus doralis*). Although Black Stripped Wallabies are resident to the region, due to low population numbers particularly within the developed coastal zones, it is believed that the most likely species was a Swamp Wallaby.



Fig 6. Swamp wallaby (Wallabia bicolor) scat found throughout the survey site.

Northern Brown bandicoots (*Isodon macrourus*) pathways and hollows were found throughout the site (Fig. 7). There was also a good example of the inter-relationship between species with Northern Brown Bandicoot holes dug into an old Brush Turkey mound as it had previously been looking for insects and roots in the composting humus pile.





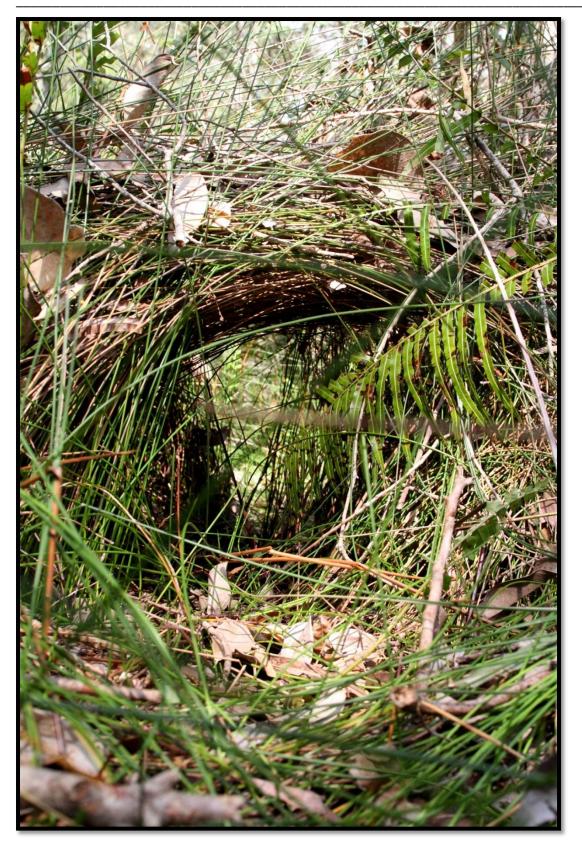


Fig. 7.Northern Brown Bandicoot (Isodon macrourus) hollow and track.





3.4 Opportunistic Survey

69 species were identified in the site through visual or auditory methods (See App.) The overall assemblage is consistent with expected species from this vegetation community type. No species were found that have a conservation status of vulnerable or higher. One species of note was the observation of Fairy Gerygones (*Gerygone palpebrosa*) (Fig 8). The Sunshine Coast is towards the southernmost range of its distribution. Anecdotal evidence suggests that this species may have historically been more common through the region. Due to the similar call and overall look between this species and the White-throated Gerygone (*Gerygone olivacea*) and Mangrove Gerygone (*Gerygon* levigaster) mis-identification may be part answer of the low positive identifications.



Fig 8. Fairy Geygone (Gerygone palpebrosa). Note: this example was taken in the Buddina area.

Two frog species were identified in the site, the Stripped Marsh Frog (*Limnodynastes peronii*) and Eastern Sedge Frog (*Litoria fallax*). None of the high conservation status wallum or acid frog species were found. Due to the high conservation status of certain frog species and the potential suitable habitat continual surveying of the area would be recommended.

Three species of butterflies were recorded Black Jezabel (*Delias nigrina*), Evening Brown (*Melanitis leda*), and Orchid Swallowtail (*Papilio aegeus*). Numbers and species were less than expected for the time of year. This is presumed to be due to the high winds and precipitation prior and during the survey.





Lace monitors were visually identified within the site. With the high density of small mammals at the site these would represent a high portion of their food source.



Fig. 9. Salticid anteater (Zenotorus orbiculatus)

No evidence of pest/exotic species were found including domestic or feral dogs and cats, or foxes.





4 Discussion

The Tanah Street fore dune strip has proved to be a diverse site. With 69 species found during the survey it has shown to be an important habitat for many resident species. The limited range for animals due to the natural barrier of the South Pacific Ocean to the east and the continued expansion of human land clearing and development to the west the work that has gone into protecting and restoring these communities highlight the importance of this work in creating and maintaining a vegetation corridor.

With the seasonal variations occurring at the site ongoing survey work would prove beneficial. This would help identify migrant species, breeding cycles, or species that are more readily observed at different times of the year such as reptiles and frogs. This can be highlighted by the relative absence of butterflies due to precipitation and high wind speed around the time of the survey. If these ongoing surveys are completed temporal shifts due to anthropogenic pressure, hydrological flow or climate change can be analysed and informed management practices could be applied.

5 Acknowledgements

This project was carried out with financial support from Coolum District Coast Care Inc. with logistic support from the Wildlife Preservation Society of Queensland, Sunshine Coast and Hinterland Branch Inc.

Fauna survey work was conducted under DERM Scientific Purposes Permit no. WISP05484408 and DPI Animal Ethics permit no. CA2009/02/329.

All photographs were taken by Paul Smith on the survey site except for the Fairy Gerygone. These photo's remain the property of Paul Smith.





6 Appendix

Opportunistic survey data summary for each survey event.

Date: 11/	08/2011	Time: 08:30-12:30				
Group	Common Name	Scientific Name	Seen, or Heard (H)	Qty	Juv	Comments
Birds	Australian Brush- turkey	Alectura lathami		1		
	Brahminy Kite	Haliastur indus		1		Flying over
	Collar Sparrowhawk	Accipiter cirrhocephalus		1	1	i iyilig evel
	The second secon					
	Bar-shouldered Dove	Geopelia humeralis		4		
	Rainbow Lorikeet	Trichoglossus haematodus		8		Flying over
	Australian Figbird	Sphecotheres viridis		6		
	Australian White Ibis	Threskiornis molucca		1		Flying over
	Dainhaw Dan anti-	Marana arnatus	ш	2		Flying over
	Rainbow Bee-eater	Merops ornatus	Н	3		Flying over
	Variegated Fairy- wren	Malurus lamberti		8		3 male, 5 female
	Striated Pardalote	Pardalotus striatus	Н	1		
	White-browed Scrubwren	Sericornis frontalis		2		
	Fairy Gerygone	Gerygone palpebrosa		2		Male & female
	Little Wattlebird	Anthochooro chrisoptoro		0		
	Noisy Friarbird	Anthochaera chrysoptera Philemon corniculatus		8		
	Blue-faced Honeyeater	Entomyzon cyanotis		4		
	Lewins Honeyeater	Meliphaga lewinii		8+		
	Brown Honeyeater	Lichmera indistincta	S	15+		
	White-cheeked Honeyeater	Phylidonyris nigra		10		
	Eastern Yellow Robin	Eopsaltria australis		4		
	Eastern Whipbird	Psophodes olivaceus	Н	2		
	Lastern writpulla	1 GOPTIOGOS OTIVAGEGOS	<u> </u>			
	Little Shrike-thrush	Colluricincla megarhyncha		5		
	Grey Shrike-thrush	Colluricincla harmonica	Н	1		
	Spectacled Monarch	Monarcha trivirgatus		1		
	Magpie Lark	Grallina cyanoleuca		2		Male & Female
	Grey Fantail	Rhipidura albiscapa		2		





	Spangled Drongo	Dicrurus bracteatus		5		
	Black-faced Cuckoo-shrike	Coracina novaehollandiae	Н	1		
	Varied Triller	Lalage leucomela		2		
	Olive Backed Oriole	Oriolus sagittatus		6	4	Feeding n Celery wood seeds
	Grey Butcherbird	Cracticus torquatus	Н	2		Male & Female
	Pied Butcherbird	Cracticus nigrogularis	Н	1		
	Torresian Crow	Corvus orru	Н	2		
	Mistletoebird	Dicaeum hirundinaceum	Н	1		
	Silvereye	Zosterops lateralis		60+		Feeding on Celerywood
Butterfly	Black Jezebel	Delias nigrina		4		
Buttorny	Evening Brown	Melanitis leda		4		
	Bush Orb Weaver	Araneus eburnus		1		
	Russian Tent Spider	Cyrtophora parnasia		6		
	Four-spined spider	Gasteracantha quadrispinosa		4		
	Salticid Anteater	Zenotorus orbiculatus		1		
Wasps	Paper Wasp	Polistes sp.		15- 20		Nest





Date: 30/0	08/2011	Time: 08:00 - 16:30					
Group	Species Common Name	Species Scientific Name	Seen, or	Qty	Juv	Comments	
			Heard (H)				
Birds	Gull-billed Tern	Sterna nilotica		4		Flying low over beach	
	Sliver Gull	Larus novaehollandiae		1		On beach	
	Australian Brush-			5			
	turkey	Alectura lathami			1		
	Brahminy Kite	Haliastur indus		1			
	Diamining Kile	Tialiastui iliuus		'	 		
	Spotted Turtle-dove	Streptopelia chinensis		2			
	Bar-shouldered			4			
	Dove	Geopelia humeralis					
		Trichoglossus		15		Flying through	
	Rainbow Lorikeet	haematodus					
	Australian Figbird	Sphecotheres viridis		6	1		
	Australian Magpie	Gymnorhina tibicen		4	1		
	Australian Magpic	Gymnomina abicen		-	+ '		
	Laughing			3			
	Kookaburra	Dacelo novaeguineae					
	Rainbow Bee-eater	Merops ornatus		6			
	Variegated Fairy-	Adalama lamband		6		2 Male, 1 eclipse 3	
	wren Striated Pardalote	Malurus lamberti Pardalotus striatus	H	1	-	Female	
	Silialed Pardalole	Paruai0เนร รเกลเนร	[]	l l			
	White-browed			3			
	Scrubwren	Sericornis frontalis					
	Mangrove			1			
	Gerygone	Gerygone levigaster					
	Fairy Gerygone	Gerygone palpebrosa		2		Male & Female	
	Brown Thornbill	Acanthiza pusilla		2			
	Little Wattlebird	Anthochaera chrysoptera		10		Feeding on <i>B. Intrgrifolia</i>	
	Noisy Friarbird	Philemon corniculatus		8	 	Feeding on <i>B. Intrgrifolia</i>	
	Blue-faced	7 Tillottion Contilodiatae		8	2	1 coding on <i>B. magmona</i>	
	Honeyeater	Entomyzon cyanotis		Ĺ	<u></u>		
	Lewins Honeyeater	Meliphaga lewinii		10		One building nest	
	Brown Honeyeater	Lichmera indistincta		20		Feeding on B. Intrgrifolia	
	White-cheeked	D		8			
	Honeyeater	Phylidonyris nigra		2	-		
	Dusky Honeyeater	Myzomela obscura		2			
	Eastern Yellow			5	1	Feeding fledgling	
	Robin	Eopsaltria australis		١	'	i county neading	
		(a					
	Eastern Whipbird	Psophodes olivaceus	<u></u>	2			
		Colluricincla		6			
	Little Shrike-thrush	megarhyncha			<u> </u>		
	Magnialari	Crolling currels :		2		Mole 9 Famala	
	Magpie Lark	Grallina cyanoleuca		2		Male & Female	
	Grey Fantail Rufous Fantail	Rhipidura albiscapa Rhipidura rufifrons		3	+		
	Nuivus Falilali	πτιφισσια τσιπτοπο		J	1		





	Changled Drange	Dicrurus bracteatus		2		
	Spangled Drongo	Dicturus bracteatus				
	Black-faced	Coracina		2		
	Cuckoo-shrike	novaehollandiae		_		
	Varied Triller	Lalage leucomela		3		
	Olive Backed Oriole	Oriolus sagittatus		2	1	
	Grey Butcherbird	Cracticus torquatus	Н	1		
	Pied Butcherbird	Cracticus nigrogularis		2		
	Torresian Crow	Corvus orru		4		
			1			
	Fairy Martin	Hirundo ariel		8		Flying over
	r any martin	Tindhae and		+ -		1 lying over
	Silvereye	Zosterops lateralis	+	15	+	
	Olivereye	Zosterops lateralis		10		
Butterfly	Black Jezebel	Delias nigrina	+	5		+
Dutterny	Evening Brown	Melanitis leda		2		
	Orchid Swallowtail	Papilio aegeus				
	Orchid Swallowlall	Tapillo aegeus				
	Russian Tent		+	8+	+	+
		Curtonhoro nornacio		0+		
	Spider	Cyrtophora parnasia Gasteracantha	+	_	+	+
	Four opined opider			6		
	Four-spined spider Silver Orb Weaver	quadrispinosa		2		
	Sliver OID Weaver	Leucauge dromedaria		+-	1	
_	01: 114 1		+		+	
Frogs	Stripped Marsh		Н	30		
	Frog	Limnodynastes peronii	+		-	
	Eastern Sedgefrog	Litoria fallax	Н	4+	1	
					1	
Reptiles	Lace Monitor	Varanus varius		2		





Date: 03/09/2011		Time: 10:00 - 14:00					
Group	Species Common Name	Species Scientific Name	Seen, or Heard (H)	Qty	Juv	Comments	
Birds	Australian Brush- turkey	Alectura lathami		4			
	Brahminy Kite	Haliastur indus		1			
	Bar-shouldered Dove	Geopelia humeralis		2			
	White-browed Scrubwren	Sericornis frontalis		1			
	Mangrove Gerygone	Gerygone levigaster		1			
	Brown Thornbill	Acanthiza pusilla		2			
	Little Wattlebird Noisy Friarbird Lewins Honeyeater	Anthochaera chrysoptera Philemon corniculatus Meliphaga lewinii		8 3 6			
	Brown Honeyeater White-cheeked Honeyeater	Lichmera indistincta Phylidonyris nigra		10 4			
	Eastern Yellow Robin	Eopsaltria australis		2			
	Little Shrike-thrush	Colluricincla megarhyncha		4			
	Rufous Fantail Spangled Drongo	Rhipidura rufifrons Dicrurus bracteatus		2			
	Black-faced Cuckoo-shrike	Coracina novaehollandiae		1			
	Torresian Crow	Corvus orru		4			
Butterfly	Black Jezebel Russian Tent Spider	Delias nigrina Cyrtophora parnasia		10			
Insects	Hedge Grasshopper	Valanga irregularis		3			
Frogs	Stripped Marsh Frog Eastern Sedgefrog	Limnodynastes peronii Litoria fallax	H				
Reptiles	Yellow Faced Whipsnake	Demansia psammophis		1			
	Garden Skink	Lampropholis delicata		6+			





Date: 06/09/2011	Time: 08:00 - 16:30

Date: 06/09/2011		Time: 08:00 - 16:30				
Group	Species Common Name	Species Scientific Name	Seen (S) Heard (H)	Qua n	Juv.	Comments
Birds	Brahminy Kite	Haliastur indus	(/	1		
Bildo	White-bellied Sea- eagle	Haliaeetus leucogaster		1		Flying overhaead
	Spotted Turtle-dove Bar-shouldered	Streptopelia chinensis		2		
	Bar-snouldered Dove	Geopelia humeralis		4		
	Topnot Pigeon	Lopholaimus antarcticus		2		Flying low
	Tophiot Figuri	<u> </u>		_		i iying iew
	Rainbow Lorikeet	Trichoglossus haematodus		6+		Flying through
	Australian Figbird	Sphecotheres viridis		4+		
	Australian Magpie	Gymnorhina tibicen		2	1	
	7 tustralian Magpic	Gymnomina abicen			1	
	Sacred Kingfisher	Todirhamphus sanctus	<u> </u>	1		
	Rainbow Bee-eater	Merops ornatus	Н	4+		
	Variegated Fairy- wren	Malurus lamberti		5		3 Male, 2 Female
	Red-backed Fairy- wren	Malurus melanocephalus		2		Females. 1 carrying nesting material
	Striated Pardalote	Pardalotus striatus	Н	1		
	White-browed Scrubwren	Sericornis frontalis		3		
	Mangrove Gerygone	Gerygone levigaster		1		
	Fairy Gerygone	Gerygone palpebrosa		2		Male & Female
	Brown Thornbill	Acanthiza pusilla		2		
	Little Wattlebird	Anthochaera chrysoptera		15		Feeding on <i>B. integrifilia</i>
	Noisy Friarbird	Philemon corniculatus		5		Feeding on <i>B. integrifilia</i>
	Lewins Honeyeater	Meliphaga lewinii		6		
	Brown Honeyeater	Lichmera indistincta		15		Feeding on <i>B. integrifilia</i>
	White-cheeked Honeyeater	Phylidonyris nigra		6		Feeding on <i>B. integrifilia</i>
	Dusky Honeyeater	Myzomela obscura	Н	2		
	5 / V "		ļ	<u> </u>		
	Eastern Yellow Robin	Eopsaltria australis		5	1	
	Eastern Whipbird	Psophodes olivaceus	Н	2+		
		Colluricincla		6		
	Little Shrike-thrush	megarhyncha Colluricincla harmonica	-	2		
	Grey Shrike-thrush					
	Magpie Lark	Grallina cyanoleuca		1		Male
	Rufous Fantail	Rhipidura rufifrons	ļ	3		
	Spangled Drongo	Dicrurus bracteatus		2		
	Black-faced	Coracina	 	1		
	Cuckoo-shrike	novaehollandiae				
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	Varied Triller	Lalage leucomela		2		
	Olive Backed Oriole	Oriolus sagittatus		2	1	
	Pied Butcherbird	Cracticus nigrogularis	Н	1		
	Pied Currawong	Strepera graculina	Н	1		
	Torresian Crow	Corvus orru		8		
	Welcome Swallow	Hirundo neoxena		2		Flying low
	Fairy Martin	Hirundo ariel		4		Flying low
	Silvereye	Zosterops lateralis		8+		
Mammal	Swamp Wallaby	Wallabia bicolor		1		
Butferfly	Black Jezebel	Delias nigrina		8		
•	Evening Brown	Melanitis leda		2		
	Orchid Swallowtail	Papilio aegeus		1		Male
	Bush Orb Weaver	Araneus eburnus				
	Russian Tent Spider	Cyrtophora parnasia		10+		
Frogs	Stripped Marsh Frog	Limnodynastes peronii	Н	6+		
	Eastern Sedgefrog	Litoria fallax	Н	3		



