

HFNC Bear State Forest fauna survey by camera 2012 & 2014

Rod Bird

Saturday 20 April was devoted to the selection of sites and setting up of 10 “remote” cameras (Reto, Yvonne Jane and Rod) and Sunday to erection of 10 fauna nest boxes at 5 of those sites (Ken & Janeen, John & Glenys, Rod & Diane, Roger, Bob, Hilary and George with young Albert & Lennard).

Members of HFNC have been members of a Mammal Study Group or have independently conducted mammal surveys in years past (e.g. Mt Napier SP from 1975, Dundas Ra 1979, Youngs State Forest 2002), using cage traps, pit-fall traps, harp bat traps, spotlight surveys, daylight observations, hair-tube or predator scat analysis. The trapping of animals requires a permit and that presents some difficulties.

Recent availability and application of remote cameras for fauna survey work has allowed trap-shy animals to be more readily detected and surveys to be extended over a longer period, also increasing the chance of detecting more species. Members of HFNC have taken part in surveys conducted at Dergholm State Park (Easter of 2012 and in December 2011). In 2011 we also had 5 cameras installed for a short period in the eastern part of Bear SF and detected an Eastern Pygmy Possum at a site near a Silver Banksia grove.

We are interested in establishing whether species such as Feather-tailed Glider (last seen from the Wannan Flora Reserve in 1977), Yellow-footed Antechinus, Agile Antechinus, Southern Brown Bandicoot and Tuan occur in the Bear SF. We have had evidence of Brush-tailed Phascogale (Tuan) in the Mt Napier SP (a chance sighting at night in 1977), cat-captured animals in adjacent areas in 1989, and HFNC records of their presence in the Coleraine area in the 1960s. There appear to be no recent sightings in the SW region.

Glen Rudolph (Planning Manager Wimmera District, Land and Fire, DSE) provided a map of areas destined for burning in 2012, and the area burned in 2011. We have avoided the area to be burned. However, after installing 3 cameras in the area west of the Hallams Track we found signs of preparation for burning on the track that led west off Hallams Track to McAdams track. That had not been foreshadowed and may simply have indicated that the works crew had made a small error. Since it may have meant that burns in future years might be brought forward to 2012 we put no further cameras in the western block. Subsequently Glen informed us that there was no intention to burn the western area – the freshly graded track was intended only to go to the dam.

Five ScoutGuard IR Model SG550V cameras were acquired in 2011 and 5 in 2012. The latter are Model SG550V-31B. These were installed on a suitable tree at approximately 1.3 m from the ground, in a habitat that offered hollows in trees or logs on the ground. The lens was directed to a lure placed near the base of the tree. We removed any vegetation from the immediate area that, when in motion, could trigger the camera. Our objective was to select a range of habitat types and establish at least 2 cameras in each: e.g. Brown Stringybark forest, Yellow Gum/Box woodland, Gum and Banksia woodland, or areas of Brown Stringybark in the forest burned in 2011 paired with adjacent sites not burned in 2011.

John Burtonclay from Mandurang constructed the boxes (www.nestboxenvironest.com)

The fauna nest boxes were of 2 types and each box had an entrance hole 40 mm in diameter:

- Tuan/Glider box – 370 mm x 197 mm x 235 mm internal spaces (H x W x D), with hinged lid.
- Bush box – 271 mm x 195 mm x 157 mm internal spaces (H x W x D), with side opening.

Bendigo FNC members advised that, in the Ironbark Forests, Sugar Gliders are dominant over Brush-tailed Phascogales and will evict them from nest boxes unless pairs of boxes are placed near each other (e.g. 10 m apart). Apparently the dominant Sugar Glider male will not allow another family of Sugar Glider to occupy a hollow closer than about 50 m to his hollow, but will allow a Tuan to do so (provided the Tuan does not have the best hollow!). We have installed our boxes in pairs according to that premise.

We have 5 nest box sites and the boxes have been placed on trunks of suitable trees at 4-4.5 m from the ground. Each nest box site is within 50-100 m of a tree that has a camera installed. We tried to place these at least 50 m away from trees with obvious hollows. Whether that is important or not is unknown. Hopefully, if other hollows are present and occupied by Sugar Gliders that will not deter Tuan from using our nest box. We will leave the boxes in place for at least 2 years – longer if they are occupied. After 2 years we may re-site boxes that fail to become occupied. We may get some information on preferences of Sugar Gliders or Tuans for a particular box style, problems with bees, use by birds, or durability.

Site 1.

Road stop – 0.3 km from Bear SF sign on Hallams Tk (GPS Aust84, 37-22-51.6/142-02-50.6)

Camera site – ~ 150 m west @ 37-22-52.8/142-02-46.7 [Waypoint 001 BSF Cam01]

Habitat – Dense *E. baxteri* forest with *X. minor* understorey (unburned >60 years). Few obvious hollows.

Site 2.

Road stop – 1.2 km from Bear SF sign on Hallams Tk (GPS Aust84, 37-22-31.4/142-02-27.3)

Camera site – ~ 110 m west down a slight gully @ 37-22-34.9/142-02-25.5 [Waypoint 002 BSF Cam02].

Nest box site – @ 37-22-34.9/142-02-24.5 [Waypoint 003 BSF NBox 1&2].

Habitat – Dense *E. baxteri* forest with *X. minor* understorey (unburned >560 years). A few obvious hollows in the mature trees.

Site 3.

Road stop – 2.7 km from Bear SF sign on Hallams Tk (GPS Aust84, 37-21-47.4/142-02-06.0) in a drainage flat with Silver Banksia and Prickly Tea-tree and a large roadside log on east side.

Camera site – ~ 100 m west behind the thicket @ 37-21-47.2/142-02-02.9 [Waypoint 004 BSF Cam03]

Nest box site – @ 37-21-45.8/142-02-2.1 [Waypoint 005 BSF NBox 3&4].

Habitat – *E. leucoxydon*, *E. melliodora*, *E. viminalis*, *E. baxteri*, *B. marginata*.

Site 4.

Road stop – 5.5 km from Bear SF sign on Hallams Tk and along west track to McAdams Rd (log on north side of track) (GPS Aust84, 37-21-33.6/142-01-14.7)

Camera site – ~ 150 m NW @ 37-21-32.8/142-01-11.0 [Waypoint 006 BSF Cam04].

Habitat – Open forest of *E. leucoxydon* & *E. melliodora* with *X. minor* & heath understorey and some logs; *E. baxteri* forest adjacent. Few obvious hollows.

Site 5.

Road stop – Dam on track to McAdams Rd (GPS Aust84, 37-21-21.6/142-01-34.3) in a drainage flat with Silver Banksia, Black Wattle, Yellow Box, Stringybark and many logs.

Camera site – ~ 100 m west behind a thicket @ 37-21-19.9/142-01-28.7 [Waypoint 007 BSF Cam05]

Nest box site – @ 37-21-20.0/142-01-30.2 [Waypoint 008 BSF NBox 5&6].

Habitat – *E. melliodora*, *E. baxteri*, *B. marginata*, *A. mearnsii* and *X. minor*.

Site 6.

Road stop – 0.9 km along the 2011 Burn Tk from jn 2011 Burn Tk/McAdams Tk (GPS Aust84, 37-20-54.5/142-01-38.8) in an area partly burned in 2011, with a huge Yellow Gum present 100 m east of the track.

Camera site – ~ 100 m east of track @ 37-20-53.2/142-01-40.7 [Waypoint 009 BSF Cam06].

Nest box site – @ 37-20-51.2/142-01-40.1 [Waypoint 010 BSF Nbox 7&8].

Habitat – *E. leucoxydon* & *E. baxteri* and *X. minor* in an area partially burned in 2011.

Site 7

Road stop – 0.9 km along the 2011 Burn Tk from jn 2011 Burn Tk/McAdams Tk (GPS Aust84, 37-20-54.5/142-01-38.8), opposite the area partly burned in 2011 (see above).

Camera site – ~ 100 m west of track @ 37-20-56.5/142-01-34.3 [Waypoint 011 BSF Cam07]

Habitat – *E. leucoxydon* & *B. marginata* in an area not burned in 2011

Site 8.

Road stop – 0.1 km along the 2011 Burn Tk from jn 2011 Burn Tk/McAdams Tk (GPS Aust84, 37-21-20.5/142-01-46.3) in an area of Stringybark east of the Burn Tk area partly burned in 2011.

Camera site – ~ 100 m east of track @ 37-20-53.2/142-01-40.7 [Waypoint 012 BSF Cam08].

Habitat – *E. baxteri* & *X. minor* in an area partially burned in 2011.

Site 9.

Road stop – 0.1 km along the 2011 Burn Tk from jn 2011 Burn Tk/McAdams Tk (GPS Aust84, 37-21-20.5/142-01-46.3) in an area of Stringybark west of the track not burned in 2011.

Camera site – ~ 100 m west of Burn track @ 37-21-20.6/142-01-43.1 [Waypoint 013 BSF Cam09]

Habitat – *E. baxteri*, some *B. marginata* & *X. minor* in an area not burned in 2011.

Site 10.

Road stop – 0.7 km N on Hallams Tk from its jn with McAdams Tk (GPS Aust84, 37-20-49.3/142-02-17.8)

Camera site – ~ 200 m west of Hallams Tk @ 37-20-51.6/142-02-12.1 [Waypoint 014 BSF Cam10].

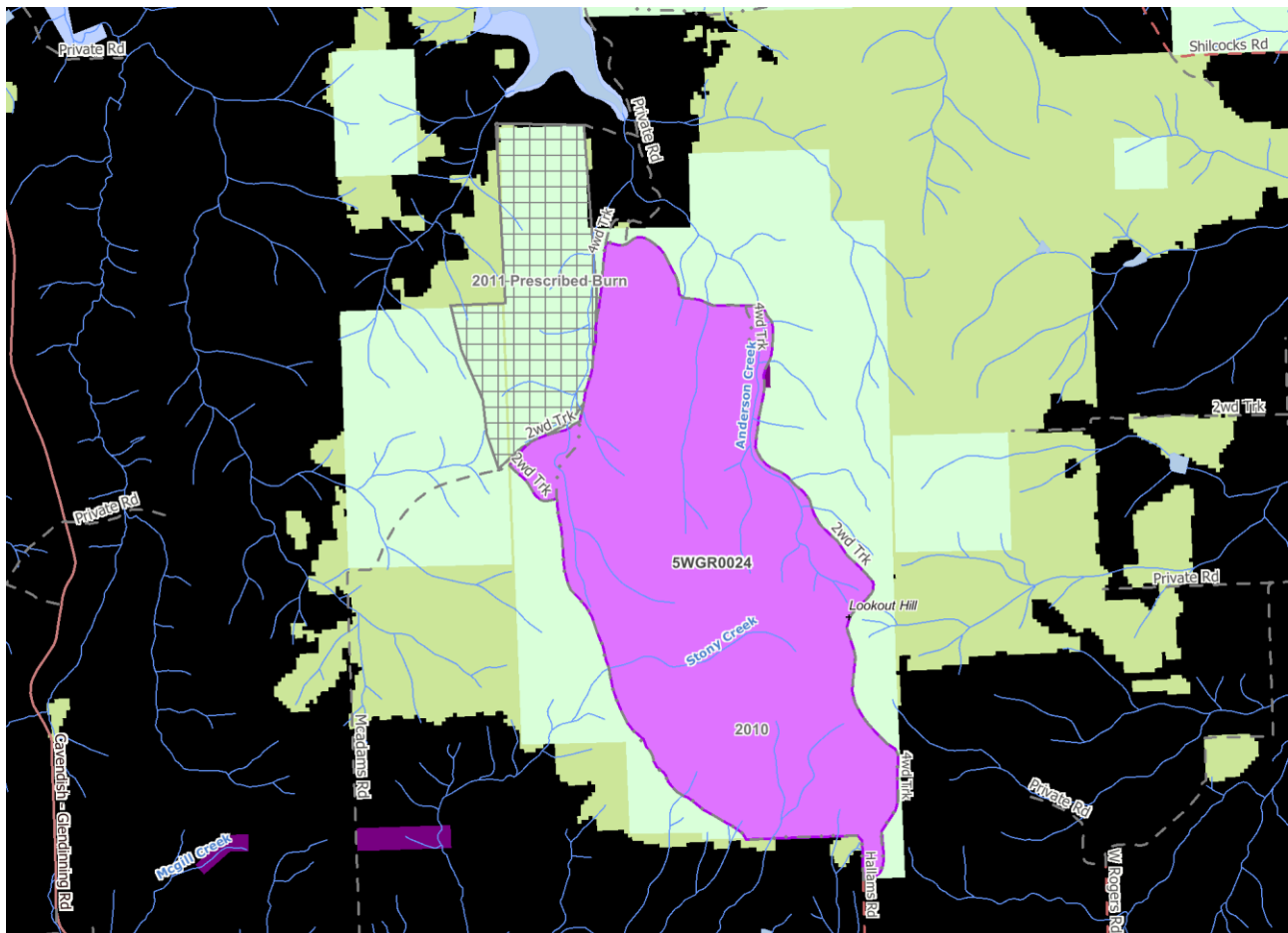
Nest box site – @ 37-20-49.9/142-02-12.4 [Waypoint 015 BSF NBox 9&10].

Habitat – *E. leucoxylo*, *E. melliodora*, *E. viminalis* & *B. marginata* open woodland with *X. minor*.

The map below shows the area (purple) that may be “prescribed burned” in winter 2012. The cream-coloured area adjacent is also State Forest – those areas will not be burned in 2012.

Hallams Track runs up the western edge of the area. Hallams Track starts from East-West Rd. At about 5 km into the forest there is a track that leads west to Craigs Rd, which runs back south to East-West Rd. The burn area extends about 500 m along that track. The hatched area on the map is the area that was partially burned in 2011.

Our sites have been selected to keep clear of the intended 2012 burn.



Photos on pages 5 & 6

1. *Phascolarctos cinereus* (Koala)
2. *Rattus rattus* (Black Rat)
3. White-eared Honeyeater
4. Eastern Yellow Robin(?)
5. White-throated Treecreeper
6. Australian Magpie
7. *Trichosurus vulpecula* (Common Brushtail Possum)
8. *Macropus rufogriseus* (Red-necked Wallaby)
9. *Cattus felis* (Feral Domestic Cat)
10. *Petaurus breviceps* (Sugar Glider)
11. *Wallabia bicolor* (Black Wallaby)
12. *Macropus giganteus* (Eastern Grey Kangaroo)

HFNC Bear SF fauna survey report for 20April-19May 2012)

The day was fine and cool at first, but windless and very pleasant. There were 12 members and one visitor present on the excursion. When we had finished with the inspection of cameras we undertook to pull the dozens of seedling *Hakea salicifolia* around a 3-4 m tall bush that we discovered in the drainage line some 300 m to the NE of Site 10. The bush was ring-barked but is carrying a large amount of seed in capsules and so future work will be needed to remove further seedlings. This species is from NSW and may have got here from a farm garden, courtesy of a Yellow-tailed Black-cockatoo.

We did not inspect the nest boxes at this time. All appeared to be as we had left them.

The SD cards were removed from each camera on 19 May and replaced with another. An on-spot check of the card was performed (using a digital camera for viewing) to determine whether the camera had been recording any images. In one instance (Site 9) there were no recorded images. The card was found to be viable (a photo could be taken and recorded in the digital viewing camera) and, since no shots were found from starting and stopping the mounted camera (as will happen when the camera is set to run), we concluded that the on/off button tag had not worked well. When re-erected and started again, the camera flashed when movement was made near the sensor, so it should function properly in the next month.

One camera (Site 3) had been dislodged from its normal downward-focus, presumably by a Kangaroo or possum.

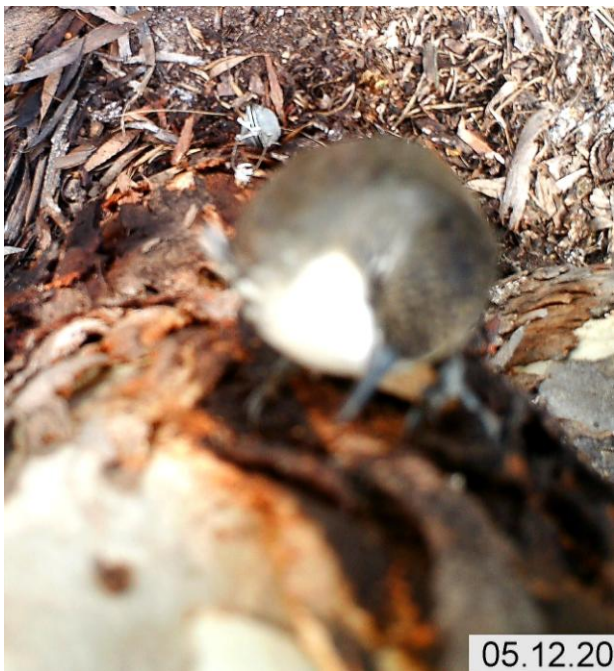
We renewed the 'lure' (a few drops of the solution of 79% linseed oil, 20%/pistachio oil and 1% vanilla essence) in the containers that had been placed at the base of each camera-tree.

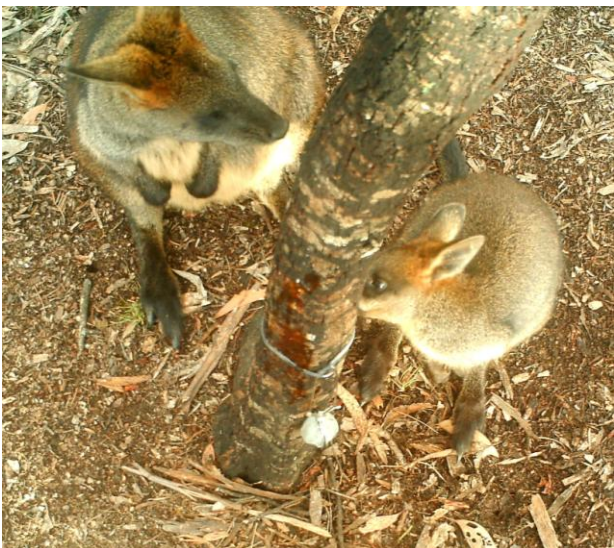
We found macropods (3 species), Brushtail Possum, one Sugar Glider, one Koala (an unexpected find), 1 cat and 1 Black Rat. There were also 4 species of birds: Australian Magpie, White-throated Treecreeper, White-cheeked Honeyeater and Eastern Yellow Robin(?). The glider was identified on basis of size and shape/colour of tail.

Two folders of photos have been kept: (a) the complete set minus most start-up and changeover photos – a few clear shots retained for scale purposes (b) a representative set of the species seen at each site.

The table below provides a summary of the results of the first month's duration of the survey. Note that the number of photos recorded for each species does not indicate how many individuals were there. It was obvious that some individuals (possum and macropods) stayed around for a dozen or more photographs while they sniffed and nuzzled the lure container!

Species	Numbers of photos recorded at each of Sites 1-10									
	1	2	3	4	5	6	7	8	9	10
Eastern Grey Kangaroo	7	15	3			3	58			
Black Wallaby			17				14			
Red-necked Wallaby			6							
Brush-tail Possum		25	4		8	14				
Koala										1
Sugar Glider							5			
Feral Cat			5							
Black Rat								2		
Unidentified mammals		2								2
Australian Magpie	1			1						
White-throated Treecreeper						1				4
White-eared Honeyeater										1
Eastern Yellow Robin?						1				
Photos with no fauna visible	0	14	8	1	1	0	6	3	F	6
Total No. photos taken (excluding installation and changeover events)	7	54	43	2	9	19	83	5	F	14
SD Card Number	01	02	03	04	05	11	12	13	14	15





HFNC Bear SF fauna survey report for 19May to 17June 2012

Rod Bird & Diane Luhrs

The cameras were collected from the 10 sites in the BEEAR SF on Sunday 17 June (a 4-week period of survey). The nest boxes were not inspected – it is expected that nest-building (if it occurs) would be starting during this time and we did not wish to interrupt that process. The boxes will be inspected later in the year.

One camera (No. 8) did not function – no images were found on the SD card. This camera did not function in the previous period either and must be faulty or have faulty batteries.

Species	Numbers of photos recorded at each of Sites 1-10									
	1	2	3	4	5	6	7	8	9	10
Eastern Grey Kangaroo	2	1	-	6	3	14	30	-	-	-
Black Wallaby	4	-	3	-	-	-	3	-	-	-
Brush-tail Possum	4	1	1	-	4	1	8	-	8	-
Sugar Glider	-	-	-	-	-	-	3	-	-	-
Echidna	-	-	-	-	3	-	-	-	-	-
Ring-tailed Possum	-	-	2	-	-	-	-	-	-	-
Red Fox	2	-	-	-	2	-	-	-	-	-
Unidentified mammals	-	-	-	-	-	-	1	-	-	1
Red Deer	-	-	-	-	-	-	1	-	-	-
White-throated Treecreeper	-	-	1	-	-	-	-	-	-	6
Emu	-	-	-	-	-	-	-	-	1	-
Grey Currawong	-	-	-	-	-	-	1	-	-	-
Raven	-	-	1	-	-	-	-	-	-	-
Unknown bird	-	-	-	-	-	1	1	-	-	-
Photos with no fauna visible	2	7	3	-	-	3	11	-	7	1
Total No. photos taken (excluding installation and changeover events)	14	9	11	6	12	19	59	0	16	8
SD Card Number	06	07	08	09	10	16	17	18	19	20

“New” species this month:

Red Fox – e.g. Cam 1, photo 030

Raven – Cam 3, photo 023

Grey Currawong – Cam 7, photo 026

Emu – Cam 9, photo 018

Ring-tailed Possum – Cam 3, photo 024

Echidna – Cam 5, photo 119

Red Deer – Cam 7, photo 046.

At least 11 species were recorded (including at least 4 bird species). Examples are pictured below.

Little Raven



Emu



Grey Kangaroo



Black Wallaby



Ringtail Possum



Brushtail Possum



Echidna



Sugar Glider



Grey Currawong



White-throated Treecreeper



Red Fox



Red Deer



Unknown bird sp?



Unknown bird sp?



HFNC BEEAR STATE FOREST FAUNA SURVEY Report 18Apr-20May 2014

R Bird, R Thompson, K Simpson, J Cayley & G Cayley

The cameras were checked on the 10 sites in the Bear SF on Tues 20 May 2014 (a 31-day period of survey). Only 4 large nest boxes were inspected – cameras had been set to focus on these boxes (Sites 2, 3, 5, 15).

No images of fauna were recorded from any of the 4 large nest boxes that were monitored. Nearly 100 movie clips were obtained from Site 5 but the action appeared to be a result of wind-induced movement of branches or bark. On inspection of the interior of the boxes no evidence was found of recent visitation.

The results that were obtained from all cameras (6 of which were used in association with an odorous attractant placed near the base of trees) are presented in the table below. Data in brackets () indicate likely number of different individuals photographed.

Species	Numbers of photos recorded at each of Site Number:									
	2	3	5	11	12	13	14	15	16	17
Eastern Grey Kangaroo						18(3)	10(1)		14(1)	9(2)
Black Wallaby?									6(1)	
Brush-tail Possum				2(1)	4(1)	2(1)				40(4)
Echidna						1(1)				
Red Fox									2(1)	3(1)
Rabbit					4(1)					
Unidentified mammal						1(1)				
White-throated Treecreeper							2(1)			12(2)
Grey Currawong						4(2)	3(1)			2(1)
Australian Magpie									4(2)	4(2)
Total No. photos of fauna					8(2)	25(8)	15(3)		26(5)	70(12)
Camera No.	10	8	9	3	4	2	1	7	5	6
SD Card No. from 18Apr	17	02	09	20	16	06	19	07	10	08
SD Card No. put in 20May	04	12	14	03	18	01		13	11	15
Nest Boxes at site	1 & 2	3 & 4	5 & 6				7 & 8	9 & 10		

The flash on Camera 1 did not appear to be working.

Red Fox



White-throated Treecreeper



Grey Currawong



Brush-tailed Possum



Australian Magpie



Eastern Grey Kangaroo



Black Wallaby or Western Grey Kangaroo?



Rabbit



Black Rat ?



Echidna

There is a faint image left of the top of the stick – that speckled image suggests an Echidna. It was not present in other adjacent photos.

HFNC BEEAR STATE FOREST FAUNA SURVEY Report 20May-17June 2014

R Bird, R Thompson, J Cayley & G Cayley

The cameras were checked on the 10 sites in the Bear SF on Tues 17June (a 28-day period of survey). Only 4 large nest boxes and associated 4 small boxes were inspected (sites 2, 3, 5 & 15). At these sites cameras had been set to focus on the large boxes.

Twenty-one movie clips were obtained from Site 5 but no animals were recorded. This camera also had images in May, most apparently triggered by wind moving branches. No images were recorded from cameras at Site 2, 3, 5 or 15, perhaps due to flat batteries or cameras not functioning on the video setting.

The results that were obtained from all cameras not focussed on the boxes (6 of which were used in association with an odorous attractant placed near the base of trees) are presented in the table below. Data in brackets () indicate likely number of different individuals photographed.

Species	Numbers of photos recorded at each of Site Number:										
	2	3	5	11	12	13	14	15	16	17	(18)
Eastern Grey Kangaroo					1(1)	16(5)			2(1)	4(1)	
Black Wallaby					1(1)	9(2)					
Red-necked Wallaby						7(2)					
Brush-tail Possum					7(2)	20(2)			2(2)	1(1)	
Red Fox										2(1)	
White-throated Treecreeper						2(1)					
Feral Cat?				1(1)							
Total No. photos of fauna				1(1)	9(4)	54(12)	0		4(3)	7(3)	
Camera No.	10	8	9	3	4	2	1	6	5	7	(6)
Photo quality				ND	NO		ND		NX		
SD Card No. put in 20May	04	12	14	05	18	01	03	13	11	15	-
SD Card No. put in 17June	20	10	08	16	19	02	06	-	17	07	09
Nest Boxes at site	1&2	3&4	5&6				7&8	9&10			

Photo quality: ND = Night too dark; DO = Day overexposed; NO = overexposed; NX = hazy

Usage of nest boxes

Site 2 – no new leaves were found in either box.

Site 3 – no new leaves were found in the large box. There were leaves in the small box (as in April) but not fresh. The inside of the box had been chewed around one side of the entrance hole.

Site 5 – no new leaves were found in either box.

Site 14 – these boxes were not inspected

Site 15 – no leaves were found in either box.

Relocated cameras

These cameras were moved today from positions monitoring 4 large fauna nest boxes. If there were any images on the 3 cameras (Camera 6, 8 & 10) that appeared to be blank then the setup was such that they could not be viewed either on a Lumix camera or be copied and viewed on a PC. We decided to change the settings from movie clip to single photos. New batteries (8 x AA) were placed in each of those cameras after a volt meter showed less than 4 units on tested batteries, and we also put new batteries in Camera 9..

Site 2 – Camera 10 moved 15 m west from tree with Large Box (no new GPS)

Site 3 – Camera 8 moved about 60 m NNE to a Banksia area (GPS 37-21-46/142-02-04)

Site 5 – Camera 9 moved about 40 m west from tree with Small Box to a few Banksia trees (no new GPS)

Site 15 – Camera 6 moved to a new site (Site 18), 3.4 km along Hallams Rd from Bear entry, East side of rd approx. 100 m (GPS 37-21-23/142-02-08) near a large dead tree, Stringybark trees and Banksia.

As well as the odorous chemical attractant we also placed a mixture of peanut butter, honey, Maple syrup and rolled oats in a mesh container as the ‘bait’. Access to this material would be very limited. We hoped that this might attract a wider range of fauna. There were insufficient containers for Sites 16, 17 & 18 for the food bait so the oats-peanut-honey mixture was smeared on the base of the tree near the other attractant.

Old leaves in Small Box and chewing of the inside of the box at Site 3



Eastern Grey Kangaroo



Feral Cat?



Brush-tailed Possum



Black Wallaby



White-throated Tree creeper



Red-necked Wallaby



Red Fox



Black Wallaby



HFNC BEEAR STATE FOREST FAUNA SURVEY Report 17June-22July2014

R Bird, R Thompson & P Hocking

Cameras were checked on 10 sites in the Bear SF on Tues 22 July 2014 (a 35-day period of survey). All batteries except at Site 17 were replaced.

The photo results from all sites, each supplied with an odorous attractant and a rolled oats-peanut butter-honey & maple syrup attractant placed in containers near the base of trees are presented in the table below. Access to this material would be very limited, unless the animals breached the containers. We hoped that providing a wider range of attractants might attract a wider range of fauna. There were insufficient containers for Sites 16, 17 & 18 for the food bait so it was smeared on the base of the tree near the other container that contained the odorous fluid.

Data in brackets () indicate possible number of different individuals photographed, based on the number of clusters of sightings on different days. The () numbers reported are probably too high, since the same animal may be returning (e.g. Brushtail Possum at Sites 5 & 17).

Remote Camera Fauna Survey at Bear State Forest from 17 June to 22 July 2014											
Site Number	2	3	5	11	12	13	14	15	16	17	18
Km from Bear entry sign	1.2	2.7		1.8	2.8						3.4
Km from jn HalTk & McA			dam			0.7	1.3	1.9	1.9	1.9	
Camera No.	10	8	9	3	4	2	1		5	6	7
Photo quality											
Species recorded	Numbers of photos recorded at each Site										
Grey Kangaroo	1(1)				1(1)						
Western Grey Kangaroo						8(1)					
Black Wallaby			7(2)			1(1)			66(6)	10(2)	93(5)
Red-necked Wallaby		9(3)								4(2)	
Brush-tail Possum	1(1)	1(1)	153(8)		18(4)		7(2)		2(1)	144(6)	
Red Fox	1(1)	21(7)	2(1)	1(1)	1						
Australian Magpie										4(2)	
White-throated Treecreeper									2(1)	4(1)	
White-winged Chough	1(1)										2(1)
Echidna					3(1)				2(1)	4(2)	
Total No. photos of fauna	4	31	162	1	22	9	7		72	170	95
SD Card No. put in 17 June	20	10	8	16	19	2	6		17	7	9
SD Card No. put in 22 July	11	13	4	15	18	5	14		1	12	3
Nest Boxes at site	1&2	3&4	5&6				7&8	9&10			

- The batteries charge at Sites 11, 12 & 16 were marginal – the repeat shot with flash poorly exposed.
- The camera at Site 13 had been misaligned – directed to the woodland instead of to the bait station.
- The camera at Site 14 had all photos at night underexposed.
- The camera at Site 5 had a major central part of the photo greatly overexposed.

Site 1 = camera 37-22-52.8/142-02-46.7 (Waypt 001)

Site 2 = box 37-22-34.7/142-02-24.5; camera 15 m W from large box (Waypt 003)

Site 3 = box 37-21-45.8/142-02-2.1 (Waypt 005); camera 37-21-46/142-02-04, 50 m NEE from box

Site 4 = camera 37-21-32.8/142-01-11.0 (Waypt 006)

Site 5 = W of dam, box 37-21-20.0/142-01-30.2 (Waypt 008); camera 40 m W from small box

Site 6 = box 37-20-51.1/142-01-40.1 (Waypt 010), camera 37-20-54/142-01-38.8

Site 7 = camera 37-20-56.5/142-01-34.3 (Waypt 011)

Site 8 = camera 37-20-53.2/142-01-40.7 (Waypt 012)

Site 9 = camera 37-21-20.6/142-01-43.1 (Waypt 013)

Site 10 = box 37-20-49.9/142-02-12.4 (Waypt 015); camera 37-20-51.6/142-02-12.1 (Waypt 014)

Site 11 = camera 37-22-13.7/142-02-17.1 (Waypt 016)

Site 12 = camera 37-21-42.0/142-02-10.4 (Waypt 017)

Site 13 = camera 37-20-52.7/142-02-23.8 (Waypt 018)

Site 14 = box 37-20-32.3/142-02-30.8 (Waypt 019); camera 30 m E of nest box trees

Site 15 = box 37-20-32.1/142-02-47.6 (Waypt 020)

Site 16 = camera 70 m N of small box at Site 15

Site 17 = camera 37-20-37.8/142-02-42.1 (Waypt 021)

Site 18 = camera 37-21-23/142-02-08



Eastern Grey Kangaroo



Red Fox



White-winged Chough



Echidna



Western Grey Kangaroo ?



Australian Magpie



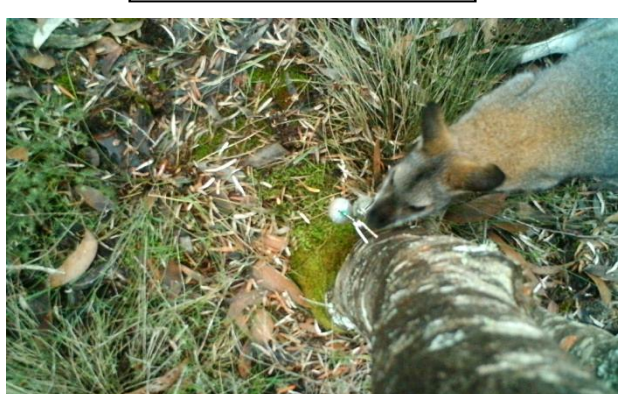
Brush-tailed Possum



White-throated Treecreeper



Black Wallaby



Red-necked Wallaby

HFNC BEEAR STATE FOREST FAUNA SURVEY Report 22July-16Sep2014

R Bird, R Thompson & P Hocking

Cameras were checked on 10 sites in the Bear SF on 16 Sep 2014 (2-month period of survey).

The photo results from all sites, each supplied with an odorous attractant and a rolled oats-peanut butter-honey attractant placed in containers near the base of trees, are presented in the table below. The most interesting results were photos of an *Antechinus* species (the first record here) and Sugar Glider.

Data in brackets () indicate possible number of different individuals photographed, based on the number of clusters of sightings on different days. The () numbers reported are probably too high, since the same animal may be returning (e.g. Brushtail Possum – possibly only 1 or 2 animals at Site 5 for 504 photos!).

Remote Camera Fauna Survey at Bear State Forest from 22 July to 16 Sep 2014											
Site Number	2	3	5	11	12	13	14	15	16	17	18
Km from Bear entry sign	1.2	2.7		1.8	2.8						3.4
Km from jn HalTk & McA			dam			0.7	1.3	1.9	1.9	1.9	
Camera No.	10	8	9	3	7		1		5	6	2
Photos recorded	*		*	*	*						*
Species recorded	Numbers of photos recorded at each site										
Grey Kangaroo	1		1		4(1)						
Black Wallaby				19(2)	1(1)						20(2)
Red-necked Wallaby				22(5)	2(1)						
Brush-tail Possum			504(11)	108(6)	8(2)						
Sugar Glider			4(2)								
<i>Antechinus (flavipes?)</i>			2(1)								
Red Fox				8(2)							
Little Raven	2(1)										
Grey Currawong											2(1)
White-winged Chough	1?										
Echidna				12(3)	1(1)						
Total No. photos of fauna	4	-	511	169	16	-	-		-	-	22
SD Card No. put in 22 July	11	13	4	15	18	5	14		1	12	3
SD Card No. put in 16 Sep	6	8	2	16	3	-	4		5	17	11
Nest Boxes at site	1&2	3&4	5&6				7&8	9&10			

- The 'Ultracharge' batteries at Sites 12, 13, 14 & 18 had leaked – there were a few photos from Camera 7 but none for Cameras 1, 2 & 4. Cameras 4, 2 & 7 reset at Sites 12, 14 & 18 on 17Sep.
- The SD Card 12 in Camera 6 at Site 17 had the 'write-protect' on, hence no photos recorded.
- Camera 4 at Site 12 gave dark blank photos for second of any pair of flash shots
- Camera 8 Card 13 at Site 3 failed to record any images, incl. those of operators handling the units
- Camera 9 at Site 5 had 790 photos, the flash shots mostly greatly over-exposed. Most photos in daylight had no fauna in view (perhaps triggered by a passing macropod or bird).

Site 1 = camera 37-22-52.8/142-02-46.7 (Waypt 001)

Site 2 = box 37-22-34.7/142-02-24.5; camera 15 m W from large box (Waypt 003)

Site 3 = box 37-21-45.8/142-02-2.1 (Waypt 005); camera 37-21-46/142-02-04, 50 m NEE from box

Site 4 = camera 37-21-32.8/142-01-11.0 (Waypt 006)

Site 5 = W of dam, box 37-21-20.0/142-01-30.2 (Waypt 008); camera 40 m W from small box

Site 6 = box 37-20-51.1/142-01-40.1 (Waypt 010), camera 37-20-54/142-01-38.8

Site 7 = camera 37-20-56.5/142-01-34.3 (Waypt 011)

Site 8 = camera 37-20-53.2/142-01-40.7 (Waypt 012)

Site 9 = camera 37-21-20.6/142-01-43.1 (Waypt 013)

Site 10 = box 37-20-49.9/142-02-12.4 (Waypt 015); camera 37-20-51.6/142-02-12.1 (Waypt 014)

Site 11 = camera 37-22-13.7/142-02-17.1 (Waypt 016)

Site 12 = camera 37-21-41.6/142-02-10.0 (Waypt 017) (new position on 17Sep)

Site 13 = camera 37-20-52.7/142-02-23.8 (Waypt 018)

Site 14 = box 37-20-32.3/142-02-30.8 (Waypt 019); camera 70 m E of box, 37-20-33.4/142-02-33.2, 17Sep

Site 15 = box 37-20-32.1/142-02-47.6 (Waypt 020)

Site 16 = camera 70 m N of small box at Site 15

Site 17 = camera 37-20-37.8/142-02-42.1 (Waypt 021)

Site 18 = camera 37-21-23.2/142-02-09 (new position on 17Sep)



Black Wallaby



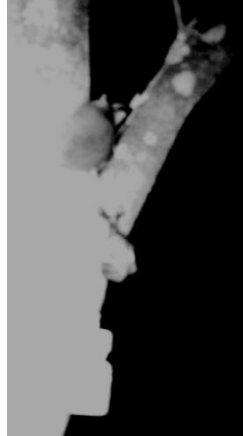
Red-necked Wallaby



Red Fox



Antechinus flavipes?



Sugar Glider



Brush-tailed Possum



Little Raven



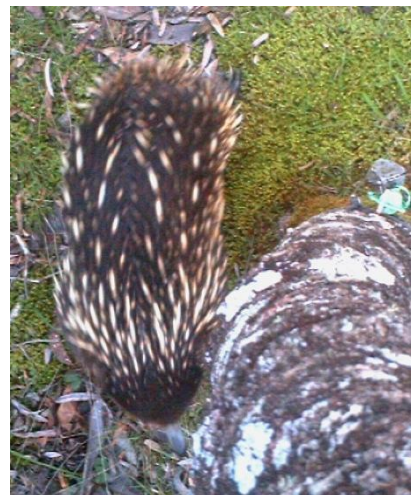
Grey Currawong



White-winged Chough?



Eastern Grey Kangaroo



Echidna

HFNC BEEAR STATE FOREST FAUNA SURVEY Report 16Sep-18Oct2014

R Bird & H Turner

Cameras were checked on 9 sites in the Bear SF on 18 Oct 2014 (1-month period of survey).

The photo results from all sites, each supplied with an odorous attractant and a rolled oats-peanut butter-honey attractant placed in containers near the base of trees, are presented in the table below.

Data in brackets () indicate possible number of different individuals photographed, based on the number of clusters of sightings on different days. The () numbers reported are probably too high, since the same animal may be returning (e.g. Brushtail Possum – possibly only 1 or 2 animals at Site 11 for 93 photos).

Remote Camera Fauna Survey at Bear State Forest from 16 Sep. to 18 Oct 2014											
Site Number	2	3	5	11	12	13	14	15	16	17	18
Km from Bear entry sign	1.2	2.7		1.8	2.8						3.4
Km from jn HalTk & McA			dam			0.7	1.3	1.9	1.9	1.9	
Camera No.	10	8	9	3	7		1		5	6	2
Photos recorded	*	–	*	*	*		–		–	*	–
Species recorded	Numbers of photos recorded at each site										
Grey Kangaroo	5(3)			2(1)							
Black Wallaby	2(2)										
Brush-tail Possum			12(1)	93(11)	2(1)						
Emu	10(2)										
Common Blackbird?				1(1)							
Total No. photos of fauna	17(7)		12(1)	96(13)	2(1)						
SD Card No. put in 16 Sep	6	8	2	16	3	–	4	–	5	17	11
SD Card No. put in 18 Oct	10	18	9	15	–	–	–	–	12	?	–
Nest Boxes at site	1&2	3&4	5&6				7&8	9&10			

- There were only 9 cameras set up in September for the period ending in October. Camera 4 failed to operate and was not installed. Three (Cameras 1, 2 & 7) had new batteries installed in September after they had failed due to battery leakage in the previous period.
- Energiser long-life batteries were put in cameras at Sites 2, 3, 5, 11, 16 & 17. Batteries that were replaced appeared to be sound, except for one set that may have begun to leak. The battery compartment of that camera was cleaned with methanol before new batteries were inserted.
- Cameras at Sites 3, 11, 14, 16, 17 & 18 had no pictures. The door of the battery compartment was ajar on Camera 6 at Site 17 and no photos resulted.
- Only 6 cameras were set up for the next 2 months survey. While the 3 cameras that had failed last period due to battery leakage appeared to switch on when set up, they had not recorded photos and so were taken away for service. These cameras were found later to be non-functional until treated with a proprietary spray.
- The forest was very dry, there having been little rain during the last few months.
- No bees were seen entering or leaving the nest boxes near five of the camera sites.

Site 1 = camera 37-22-52.8/142-02-46.7 (Waypt 001)

Site 2 = box 37-22-34.7/142-02-24.5; camera 15 m W from large box (Waypt 003)

Site 3 = box 37-21-45.8/142-02-2.1 (Waypt 005); camera 37-21-46/142-02-04, 50 m NEE from box

Site 4 = camera 37-21-32.8/142-01-11.0 (Waypt 006)

Site 5 = W of dam, box 37-21-20.0/142-01-30.2 (Waypt 008); camera 40 m W from small box

Site 6 = box 37-20-51.1/142-01-40.1 (Waypt 010), camera 37-20-54/142-01-38.8

Site 7 = camera 37-20-56.5/142-01-34.3 (Waypt 011)

Site 8 = camera 37-20-53.2/142-01-40.7 (Waypt 012)

Site 9 = camera 37-21-20.6/142-01-43.1 (Waypt 013)

Site 10 = box 37-20-49.9/142-02-12.4 (Waypt 015); camera 37-20-51.6/142-02-12.1 (Waypt 014)

Site 11 = camera 37-22-13.7/142-02-17.1 (Waypt 016)

Site 12 = camera 37-21-41.6/142-02-10.0 (Waypt 017) (new position on 17Sep)

Site 13 = camera 37-20-52.7/142-02-23.8 (Waypt 018)

Site 14 = box 37-20-32.3/142-02-30.8 (Waypt 019); camera 70 m E of box, 37-20-33.4/142-02-33.2, 17Sep

Site 15 = box 37-20-32.1/142-02-47.6 (Waypt 020)

Site 17 = camera 37-20-37.8/142-02-42.1 (Waypt 021)

Site 18 = camera 37-21-23.2/142-02-09 (new position on 17Sep)



Eastern Grey Kangaroo



Black Wallaby



Brush-tailed Possum



Emu



Brush-tailed Possum



Blackbird??

HFNC BEEAR STATE FOREST FAUNA SURVEY Report 18Oct-25Nov 2014

R Bird, R Thompson, John & Glenys Cayley

Cameras were checked on 6 sites in the Bear SF on 25 Nov 2014 (1-month period of survey). The 5 pairs of nest boxes were also inspected (last inspected in 20 April 2014) – see separate report.

The photo results from all sites, each supplied with an odorous attractant and a rolled oats-peanut butter-honey attractant placed in containers near the base of trees, are presented in the table below.

Data in brackets () indicate possible number of different individuals photographed, based on the number of clusters of sightings on different days. The () numbers reported are probably too high, since the same animal may be returning (e.g. Brushtail Possum – possibly only 2 animals at Site 11 for 51 photos).

Remote Camera Fauna Survey at Bear State Forest from 18Oct to 25Nov 2014											
Site Number	2	3	5	11	12	13	14	15	16	17	18
Km N from Bear entry sign	1.2	2.7		1.8	2.8						3.4
Km N from jn HalTk & McA			dam			0.7	1.3	1.9	1.9	1.9	
Camera No.	10	8	9	3					5	6	
Total photos recorded	1	191	1021	1397					121	0	
Species recorded	Numbers of photos of fauna recorded at each site										
Grey Kangaroo									4(3)		
Pygmy Possum		1(1)									
Brush-tail Possum			12(1)	51(4)							
Yellow Robin		1(1)									
White-throated Treecreeper				2(1)							
Grey Shrike-thrush				2(1)							
Grey Currawong									4(1)		
Total No. photos of fauna		2(2)	12(1)	55(6)					8(4)	-	
SD Card No. put in 18 Oct	10	18	9	15					12	-	
Nest Boxes at site	1&2	3&4	5&6				7&8	9&10			

- Only 6 cameras were set up on 18 October; the other 4 cameras were not functional. No pictures were recorded from Camera 6 at Site 17; no SD card was found.
- Energiser long-life batteries were put in the 6 cameras on 18 Oct. Batteries that were replaced appeared to be sound, except for one set that may have begun to leak. The battery compartment of that camera was cleaned with methanol before new batteries were inserted.
- A very large number of photos were taken by cameras at Sites 5 & 11. Most had been triggered by movement of leaves and branches. The cameras were set about 2 m above ground and aimed at the bait station at the same height on a tree trunk nearby. The wide angle lens thus caught any movement around the station.
- The only significant ‘capture’ was that of a Pygmy Possum (image is over-exposed).

Site 1 = camera 37-22-52.8/142-02-46.7 (Waypt 001)

Site 2 = box 37-22-34.7/142-02-24.5; camera 15 m W from large box (Waypt 003)

Site 3 = box 37-21-45.8/142-02-2.1 (Waypt 005); camera 37-21-46/142-02-04, 50 m NEE from box

Site 4 = camera 37-21-32.8/142-01-11.0 (Waypt 006)

Site 5 = W of dam, box 37-21-20.0/142-01-30.2 (Waypt 008); camera 40 m W from small box

Site 6 = box 37-20-51.1/142-01-40.1 (Waypt 010), camera 37-20-54/142-01-38.8

Site 7 = camera 37-20-56.5/142-01-34.3 (Waypt 011)

Site 8 = camera 37-20-53.2/142-01-40.7 (Waypt 012)

Site 9 = camera 37-21-20.6/142-01-43.1 (Waypt 013)

Site 10 = box 37-20-49.9/142-02-12.4 (Waypt 015); camera 37-20-51.6/142-02-12.1 (Waypt 014)

Site 11 = camera 37-22-13.7/142-02-17.1 (Waypt 016)

Site 12 = camera 37-21-41.6/142-02-10.0 (Waypt 017) (new position on 17Sep14)

Site 13 = camera 37-20-52.7/142-02-23.8 (Waypt 018)

Site 14 = box 37-20-32.3/142-02-30.8 (Waypt 019); camera 70 m E of box, 37-20-33.4/142-02-33.2, 17Sep

Site 15 = box 37-20-32.1/142-02-47.6 (Waypt 020)

Site 16 = camera 70 m N of small box at Site 15

Site 17 = camera 37-20-37.8/142-02-42.1 (Waypt 021)

Site 18 = camera 37-21-23.2/142-02-09 (new position on 17Sep14)

The cameras were removed from the Bear SF and will be overhauled before being stored away for use at another site – possibly Mt Napier State Park – in 2015.

As usual, the photos below have been cropped and adjusted from the images recorded by the cameras.



Eastern Pygmy Possum



Eastern Yellow Robin



Western Grey Kangaroo



Grey Currawong



White-throated Treecreeper



Grey Shrike-thrush



Brush-tail Possums

SUMMARY OF REMOTE CAMERA RECORDS AT BEEAR SF IN 2012 & 2014

Our survey variously covered 18 sites in the Bear SF, 2 periods from 20 April-17 June in 2012 and 6 periods from 18 Apr-25 Nov in 2014. A few of the 10 cameras failed to function in some periods.

The survey did not reveal the presence of the Brush-tailed Phascogale (*Phascogale tapoatafa*), also known as Tuan. This was rather disappointing but we did see a range of other mammalian fauna, including Sugar Gliders, an Eastern Pygmy Possum, a Common Ring-tail Possum, a Yellow-footed Antechinus, a Koala, several Short-beaked Echidnas, Red-necked Wallaby and Western Grey Kangaroos (see Table below).

Most prevalent was the Common Brushtail Possum, Eastern Grey Kangaroo and Black Wallaby.

Introduced species included Red Deer (*Cervus elaphus*), Black Rat (*Rattus rattus*), European Rabbit (*Oryctolagus cuniculus*), Feral Cat (*Felis catus*) and Red Fox (*Vulpes vulpes*).

A range of bird species were also recorded and these are also listed below.

Some indication of the relative abundance of these fauna, and distribution across the woodland, can be seen from the table of data.

- 'Number of photo periods' is the number of times a species was seen across all sites in the one-month or two-month periods (max. possible was 60, rather than 80, due to some camera failures). The chance of some fauna being recorded at these sites would also depend on the position and focus of the camera (e.g. cameras mounted to focus on a branch could not record an Echidna or many other animals).
- 'Number of sites' is the number of sites (of the 18 used) that a species was recorded at.
- 'Number of photos recorded' is the total number of photos for the species and includes the multiple shots taken at each site (e.g. a single Common Brushtail Possum could spend a long time at the 'bait station' and would account for most of sometimes hundreds of photos).

MAMMALS				
	:	Number of photo periods	Number of sites	Number of photos
	Native species			
1	Black Wallaby (<i>Wallabia bicolor</i>)	17	11	277
2	Eastern Grey Kangaroo (<i>Macropus giganteus</i>)	27	13	235
3	Red-necked Wallaby (<i>Macropus rufogriseus</i>)	6	5	50
4	Western Grey Kangaroo (<i>Macropus fuliginosus</i>)	1	1	8
5	Koala (<i>Phascolarctos cinereus</i>)	1	1	1
6	Common Ring-tail Possum (<i>Pseudocheirus peregrinus</i>)	1	1	2
7	Common Brushtail Possum (<i>Trichosurus vulpecula</i>)	34	13	1272
8	Sugar Glider (<i>Petaurus breviceps</i>),	3	2	12
9	Eastern Pygmy Possum (<i>Cercartetus nanus</i>)	1	1	1
10	Yellow-footed Antechinus? (<i>Antechinus flavipes</i>)	1	1	2
11	Short-beaked Echidna (<i>Tachyglossus aculeatus</i>)	7	6	26
12	Unidentified mammals	5	4	7
	Feral species:			
1	Black Rat (<i>Rattus rattus</i>)	1	1	2
2	European Rabbit (<i>Oryctolagus cuniculus</i>)	1	1	4
3	Feral Cat (<i>Felis catus</i>)	2	2	6
4	Red Fox (<i>Vulpes vulpes</i>)	11	8	45
5	Red Deer (<i>Cervus elaphus</i>)	1	1	1
BIRDS				
1	Australian Magpie	5	4	14
2	Eastern Yellow Robin	2	2	2
3	Emu	2	3	11
4	Grey Currawong	5	5	14
5	Grey Shrike-thrush	1	1	2
6	Little Raven	4	2	4
7	White-eared Honeyeater	1	1	1
8	White-winged Chough	3	2	4
9	White-throated Treecreeper	10	8	36
10	Unidentified species	2	2	2
11	Common Blackbird	1	1	1