

Pacific Highway Upgrade: Nambucca Heads to Urunga.

Nest box Monitoring – Operational Phase, Year Four (2020-2021)



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Cover Photo: Sugar gliders (*Petaurus breviceps*) found in a small glider box.

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1. Introduction

1.1 Background

The Nambucca Heads to Urunga (NH2U) Pacific Highway Upgrade formed stage one of the Warrell Creek to Urunga Pacific Highway Upgrade (WC2U). The NH2U project involved the construction of 22km of dual carriageway from Link Road, Nambucca Heads to Waterfall Way, Raleigh. The upgrade was opened to traffic in July 2016.

To mitigate potential impacts of clearing on hollow dependent fauna Ministerial Condition of Approval (MCoA) B6 required that:

“Prior to the commencement of any construction work that would result in the disturbance of any native vegetation, the Proponent shall, in consultation with the Office of Environment and Heritage (OEH) prepare and submit for the approval of the Director General a Nest Box Plan to provide replacement hollows for displaced fauna consistent with the requirements of SoC F7. The plan shall detail the number and type of nest boxes to be installed, which must be justified based on the number and type of hollows removed, the density of hollows in the area to be cleared and adjacent forest; and the availability of adjacent food resources.”

The Nest Box Plan of Management (NBPoM) outlined the number of hollow-bearing trees (HBT) and the total number and size characteristics of hollows within HBT's (Lewis Ecological 2011). The NBPoM identified 225 HBT's containing 1389 hollows of various sizes within the NH2U alignment, and recommended that 315 nest boxes be installed, with 60% installed prior to or during clearing (phase one), and the remaining 40% installed after clearing (phase two) once the number of hollows removed was determined. A total of 190 boxes were installed in 2014 during phase one. Recalculation of nest box requirements, as per the NBPoM, indicated that a further 37 boxes were required in phase two. A total of 227 nest boxes were installed for the NH2U project.

Sandpiper Ecological Surveys was engaged by Transport for NSW (TfNSW) in early 2017 to implement the operational phase biodiversity and water monitoring program. As part of the monitoring package, bi-annual (winter and summer) monitoring of nest boxes in years two (2018-2019) and four (2020-2021) was required. The following report presents the results from construction and operational phase monitoring and discusses them in the context of Potential Indicators of Success outlined in section 3.7.2 of the Ecological Monitoring Program (EMP) (Benchmark Environmental Management 2013).

1.1.1 Study area

The NH2U project is located within the Nambucca and Bellingen Shires on the north coast of New South Wales. The project extends from Link Road near Nambucca Heads, north for 22km bypassing the town of Urunga and joining the existing highway at Waterfall Way, Raleigh (Figure 1).



Figure 1: NH2U alignment showing nest box locations.

1.2 Installation sites

The NBPoM divided the WC2U project alignment into twenty-one nest box installation zones. These zones were labelled A through to R. Of these, eleven zones (H to R) were located within the NH2U project (Table 1). Installation zones were situated adjacent to the project alignment on a combination of TfNSW, state forest and private land (Figure 1). Forests NSW permitted boxes to be installed in creek lines and within 50m of the alignment within Little Newry State Forest west of the alignment, and in Newry State Forest east and west of the alignment. Where agreement with neighbouring land holders could not be obtained, such as in zones Q and R between chainages 79065 and 80765, boxes were installed in retained vegetation within the road corridor.

Table 1: Number of boxes installed in each nest box zone, chainages, broad landscape type and meters above sea level. DOF=Dry open forest, MOF=Moist open forest, RF = Riparian forest, MCF=Moist closed forest, ASL = Above sea level.

Nest Box Installation Zone	Chainage	No. of boxes	Broad Landscape Type	ASL (m)
H	61265-61865	3	DOF	20
I	64265-64865	32	DOF, MCF	22
J	66165-66765	30	DOF	33
K	68165-68815	67	DOF, RF	25
L	70065-70565	8	DOF	42
M	70565-71065	25	DOF	45
N	73465-74065	8	MOF	40
O	74365-74865	18	MCF	29
P	76165-76765	5	MCF	18
Q	79065-79765	20	MOF, DOF	35
R	80065-80765	11	MOF, DOF	35

1.3 Nest box designs

Nine nest box designs were installed across the NH2U upgrade (Table 2). Possum boxes were the most common with 44 installed across the project followed by small glider with 38 and scansorial mammal with 37 (Table 2). The highest number of nest boxes was installed in zone K (67 boxes). Zones J and I were the second and third most allocated zones with 32 and 30 boxes respectively (Table 3).

Table 2: Design specifications of nest boxes installed on the NH2U project.

Box Type	Inside measurements	Chamber depth (mm)	Entrance diameter (mm)	Total boxes
Scansorial mammals (i.e. antechinus, brush-tailed phascogale)	180 x 180	300	35 – 40	37
Microchiropteran bats (fluttering and direct flying species)	200 x 200	400	10 – 30	25
Small gliders (i.e. sugar glider)	200 x 200	300	40 – 45	38
Larger gliders (i.e. yellow-bellied glider, greater glider)	250 x 300	400	70 – 90	33

Possums (brush-tails and ringtails)	250 x 300	400	85 – 100	44
Small owls (boobook owl, barn owl)	250 x 300	500	100	8
Black cockatoos/large parrots (king parrot)	300 x 400	1200	200	8
Medium-sized parrots (lorikeets/rosellas)	200 x 200	400	65	30
Large forest owls	550 x 550	800	200	4

Table 3: Number of each nest box design installed in each nest box zone on the NH2U project.

Box Type	Zone H	Zone I	Zone J	Zone K	Zone L	Zone M	Zone N	Zone O	Zone P	Zone Q	Zone R	Total
Large Glider	1	3	3	10	1	4	2	2	1	3	3	33
Small Glider	0	6	7	9	1	3	3	4	1	3	1	38
Scansorial	1	5	4	9	2	5	2	4	1	2	2	37
Medium Parrot	1	4	5	9	2	2	0	1	1	4	1	30
Possum	0	8	5	16	1	4	1	3	0	4	2	44
Black Cockatoo	0	2	1	3	0	2	0	0	0	0	0	8
Microbat	0	4	3	8	1	4	0	2	1	1	1	25
Large Forest Owl	0	0	0	1	0	0	0	1	0	1	1	4
Small Owl	0	0	2	2	0	1	0	1	0	2	0	8
Total	3	32	30	67	8	25	8	18	5	20	11	227

1.4 Box installation

An ecologist selected nest box trees. Data collected during tree selection included: tree species; box type; location (GPS coordinates); box height; orientation; and box number. Qualified tree climbers under supervision of an ecologist installed all nest boxes. Phase one nest boxes were installed between 11 and 14 March 2014, 7 and 9 April 2014, and 20 and 23 August 2014. The 37 phase two nest boxes were installed on 23 and 24 July 2015.

2. Methods

2.1 Nest box inspections

The first of the bi-annual, year four operational phase nest box monitoring events occurred over six days between 17 and 29 July 2020. The second inspection was carried out over five days between 8 and 12 February 2021. An ecologist was present during all inspections. A total of 227 nest boxes were inspected during the winter event and 221 in summer. Six boxes in summer were either destroyed by private logging or not located.

Nest boxes were inspected using a telescopic pole with a GoPro Hero7 silver and Knog light unit attached. The GoPro was linked wirelessly to an iPad where the contents of each box were viewed by an ecologist. The lid of each box was carefully lifted, the interior photographed, and essential data recorded using a standard datasheet. Tree climbers inspected and photographed boxes higher than ten metres (n = 6). Data recorded during all inspections included; weather conditions (i.e. rain, wind,

cloud cover, ambient temperature), time and date of inspection, vertebrate fauna present, approximate age and number of fauna present, sex of the animals present (if discernible), fauna signs such as leaf nests, scats, wear or scratch marks, box condition, wire condition, and comments on any changes in surrounding habitat.

Box use was determined by direct observation of fauna or indirectly by nest characteristics. Nests were assigned an accuracy score, which included possible (50-75% certain), probable (75-95% certain) or definite (100%). Box condition was allocated one of three ratings: good (nil or very little deterioration), minor damage (hinge deterioration, box delaminating, lid fallen off, wire or spring rusting), severe damage (Non-functional i.e. box fallen, termite infestation). Evidence of feral animal occupation such as European bees (*Apis mellifera*) was also recorded. Native beehives (*Austroplebeia* and/or *Tetragonula* spp.) were recorded in the fauna column of the datasheet.

Identification of fauna and fauna nests was based on the ecologist's experience, with reference to standard field guides (e.g. Menkhorst & Knight 2004; Churchill 2008; Tyler & Knight 2009; Triggs 1996) as required. The identification of fauna signs was based on previous experience of nest characteristics of hollow dependent fauna and published information.

2.2 Nest box maintenance

Nest boxes that had minor, moderate, or severe deterioration were assessed to determine the best ameliorative approach. Tree climbers were used to reattach hinges and lid, replace wire and reinstall damaged nest boxes.

3. Results

3.1 Use of nest boxes

3.1.1 Occupancy and evidence of use rates

The number of boxes occupied by vertebrates ranged from 51 (22.5%) in winter 2020 to 29 (12.7%) in summer 2021 (Figure 2). Evidence of use was recorded in 98 (43%) nest boxes in winter 2020 and 110 (48.4%) boxes in summer 2021. The number of boxes either occupied or showing evidence of use by vertebrate species in winter 2020 and summer 2021 were 149 (65.6%) and 139 (61.2%) respectively. Vacant nest boxes decreased from 30 (13.2%) during winter 2020 to 26 (11.4%) in summer 2021. Seven boxes were not inspected due to logging on private property (n=5) and two, which had fallen from trees due to wire failure.

The number of boxes occupied or showing evidence of use by native or European bees or ants increased from 43 (18.9%) in winter 2020 to 55 (24.2%) in summer 2021 (Figure 2). Boxes occupied by European bees (active hives) increased from three (1.3%) in winter 2020 to six (2.6%) in summer 2021 (Table 4). Active ant nests increased slightly from 11 (4.8%) during winter 2020 to 13 (5.7%) during summer 2021 (Table 4). The number of boxes occupied by native bees remained stable with 22 (9.6%) recorded in winter 2020 and 21 (9.2%) in summer 2021 (Table 4). Boxes containing old European bee or ant nests (evidence of use) increased from four (1.8%) to seven (3%) and three (1.3%) to eight (3.5%) respectively between winter 2020 and summer 2021 (Table 4).

Combined nest box use (i.e. sum of boxes occupied and those featuring evidence of use) was higher during years two and four of the operational phase than during years one and two of the construction

phase (Figure 2). Evidence of use increased gradually in the first three years after installation (i.e. winter 2015 40%, to winter 2018 52%) yet remained relatively consistent between 2018 and 2021 (Figure 2). A similar trend is evident for the proportion of boxes occupied (Figure 2). Indeed, the combined proportion of boxes with evidence of use or occupied peaked in winter 2018. There is slight evidence of higher occupancy rates during the operation phase with a maximum occupancy rate of 51 (22.5%) boxes recorded during winter 2020 (Figure 2). Occupancy of nest boxes has been consistently higher during the winter sample periods than the corresponding summer sample periods (Figure 2).

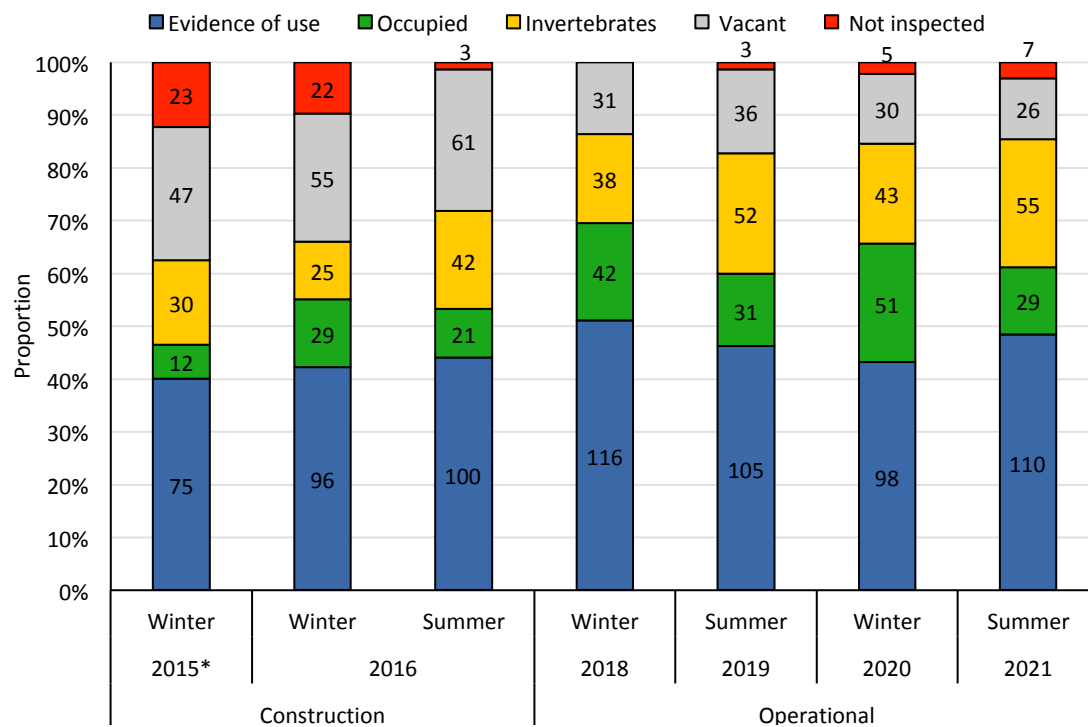


Figure 2: Number and proportion of boxes used by vertebrate fauna (occupied or evidence of use), invertebrates (grouped native bees, ants and European bees), unused (vacant) and boxes not inspected (due to restricted access, damage or missing) during construction and operational phase monitoring at NH2U, 2021. * = 187 boxes inspected during winter 2015 as phase two had not been installed.

Mammals were the most commonly recorded (evidence of use and occupied) fauna group in nest boxes at NH2U (Table 4). Sugar glider (*Petaurus breviceps*) and *Trichosurus* spp. (i.e. combined short-eared brushtail possum - *Trichosurus caninus*, and common brushtail possum-*Trichosurus vulpecula*) were the most frequently recorded species during each sample period (2015-2021) (Table 4, Plate 1). In order of use, other mammals recorded included *Antechinus* spp (Plate 1), *Acrobates* spp., common ringtail possum (*Pseudocheirus peregrinus*), Microbat spp., Rodent spp. and the introduced black rat (*Rattus rattus*) (Table 4).

Bird species recorded occupying nest boxes included rainbow lorikeet (*Trichoglossus moluccanus*) and Australian owl nightjar (*Aegotheles cristatus*) on six and five occasions respectively (Table 4). Evidence of other species/groups recorded, included *Trichoglossus* spp., and Australia wood duck (*Chenonetta jubata*) (Table 4, Plate 1). Australia Wood duck nests were recorded on three occasions in the same large forest owl box and characterized by scattered large woodchips with down feathers (Plate 1). No owls or cockatoo species were recorded during nest box monitoring.

No threatened species were recorded in nest boxes during the construction or operational phases. This result is consistent with findings during clearing for the upgrade when no threatened hollow-dependent fauna were recorded.

Table 4: The number of nest boxes occupied or displaying evidence of use by species and fauna groups during construction (2015-2016) and operational (2018-2021) monitoring at NH2U, 2021. *= 187 boxes inspected during winter 2015 as phase 2 boxes had not been installed. ^A Old leaf nests were characterised by lack of structure and decaying leaf material.

Species	Occupied						Evidence of use					
	2015*	2016	2018	2019	2020	2021	2015*	2016	2018	2019	2020	2021
Mammals												
<i>Antechinus</i> spp.			1				1	20	17	12	4	10
Sugar glider	5	30	16	12	19	11	38	80	52	45	41	41
<i>Acrobates</i> spp. (Feathertail)				2	1			13	8	9	10	6
Common ringtail possum			3				3	15	2	3	1	
<i>Trichosurus</i> spp. (Brush-tail possum)	4	8	13	13	20	13	12	35	25	28	18	31
Microbat spp.		2				1		2	3	1		3
Black rat			1	1								
Rodent spp.							2	6				
Reptiles												
Green tree snake		1			1							
Lace monitor	2	6	4	1	6	3						
Birds												
Australian wood duck										1	1	1
Rainbow lorikeet	1	1		2	2			1				
Lorikeet spp.										1	1	2
Australian owl nightjar		2	2		1			3	1	2	1	
Bird spp.							1	2			1	2
Frogs												
<i>Litoria</i> spp.					1							
Invertebrates												
Ants	25	47	2	19	11	13			1		3	8
European bees		2	2	4	3	6		4	2	5	4	7
Native bees	2	14	11	24	22	21				1		
Other												
Old leaf ^A							8	19	7	3	20	14

Other vertebrate fauna groups recorded were reptiles (two species) and frog (one species) (Table 4). Lace Monitor (*Varanus varius*) was the most commonly recorded reptile species occupying between one and six nest boxes across all sample periods (Table 4). Green Tree Snake (*Dendrelaphis punctulatus*) was recorded on two occasions (winter 2016 and winter 2020) in the same parrot box (O8) (Plate 1). A tree frog (*Litoria* spp.) was recorded on one occasion (Table 4).

Invertebrate occupancy (considered to be active nests or hives) by ants tended to decrease over time whereas both native and European bees increased (Table 4). Native bees tended to maintain their occupancy of nest boxes with little evidence of abandoned hives other than on one occasion during summer 2019 (Table 4). European bees demonstrated intermittent use of nest boxes with a total of 22

abandoned hives (evidence of use) in comparison to 17 active hives (occupied) recorded throughout nest box monitoring (Table 4).



Plate 1: (a) Sugar gliders in a typical eucalyptus leaf nest observed in a small glider box. (b) *Trichosurus* spp. denning in a possum box previously occupied by european bees. c) *Antechinus* spp. den with evidence of a latrine in the corner. (d) Green tree snake recorded in a parrot/lorikeet box. (e) Feathers from a probable Rainbow lorikeet using a parrot/lorikeet box. (f) Australian wood duck nest recorded in a Large Forest Owl box.

3.1.2 Fauna displaced during clearing and nest box use

Nineteen vertebrate species were displaced from hollows (either occupying hollows or showing evidence of use by distinctive nests) during the clearing phase at NH2U (Table 5). For this summary, *Antechinus* spp. has been assumed to be brown antechinus. Of the species recorded, 10 (53%) were recorded using nest boxes during monitoring (Table 5). In total, 75% (n=6 species) of mammals, 50%

(n = 2 species) of reptiles and 66% (n = 2 species) of birds recorded using hollows during clearing were recorded using nest boxes (Table 5). Species recorded during nest box monitoring but not during clearing included Australian wood duck, and the introduced black rat (Table 5).

Table 5: Hollow-using vertebrate species and fauna groups recorded during clearing and nest box monitoring (2015-2021) at NH2U. + = species designation assumed based on records during clearing.

Species	Clearing	Nest box monitoring
Mammals		
Brown Antechinus	X	+
<i>Antechinus</i> spp.	X	X
Sugar Glider	X	X
<i>Acrobates</i> spp. (Feathertail glider)	X	X
Common Ringtail Possum	X	X
Common Brushtail Possum	X	X
Short-eared Brushtail Possum	X	X
<i>Trichosurus</i> spp. (Brushtail possum)	X	X
Gould's Wattled Bat	X	
<i>Mormopterus</i> spp.	X	
Microbat spp.		X
Rodent spp.		X
Black rat ¹		X
Reptiles		
Pink tongued skink	X	
Lace monitor	X	X
Carpet python	X	
Green tree snake	X	X
Frog		
<i>Litoria fallax</i>	X	
<i>Litoria peronii</i>	X	
<i>Litoria caerulea</i>	X	
<i>Litoria dentata</i>	X	
<i>Litoria</i> spp.		X
Bird		
Australian owl nightjar	X	X
Rainbow Lorikeet	X	X
<i>Trichoglossus</i> spp. (Lorikeet)		X
Australian wood duck		X
Yellow-tailed black cockatoo	X	

3.1.3 Nest box designs and target species

In total, five (55.5%) of the nine nest box types recorded use by the target species/group (Figure 3). Small glider (SG) boxes recorded the highest use by a target species with 59% of boxes inspected showing evidence of use or occupancy by small gliders (either sugar glider or *Acrobates* spp.; Figure 3). Possum (Po) boxes recorded 52% usage by possums (short-eared brushtail possum, common

brushtail possum, common ringtail possum and *Trichosurus* spp.) (Figure 3). Other targeted fauna included *Antechinus* spp in 7% of scansorial fauna (SF) boxes, *Trichoglossus* spp were found in 6% of parrot/lorikeet boxes (P/L) and microbat spp. which were exclusively recorded in 7.5% of microbat (MB) boxes (Figure 3). No use by target species was recorded in the cockatoo (Co), small owl (SO), large glider (LG) or large forest owl (LFO) boxes (Figure 3).

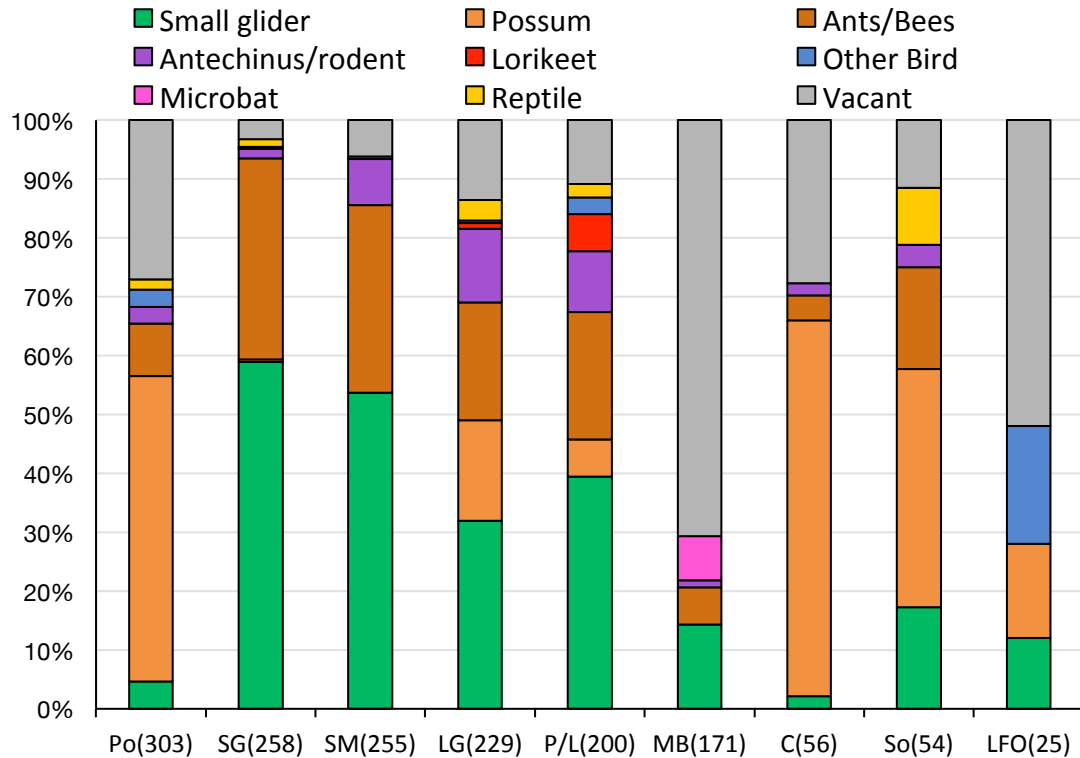


Figure 3: Fauna recorded using design-specific box types during nest box monitoring (2015-2021) at NH2U. Numbers in parenthesis indicate the total number of boxes inspected. LG=Large Glider, SG=Small Glider, P/L=Medium Parrot, SC=Scansorial mammal, LFO=Large Forest Owl, MB=Microbat, So=Small Owl, Po=Possum and C=Black Cockatoo.

Several species were often recorded in non-design specific box types (Figure 3). Small gliders were found to use all box types with a preference for boxes with smaller entrance diameters and internal dimensions (e.g. SG, SM, LG, P/L) (Figure 3). Scansorial fauna (*Antechinus* spp.) were recorded in all nest box designs with exception of LFO boxes (Figure 3). Possums were recorded in six box types, all with larger entrance holes (Figure 3). Among the bird species, a rainbow lorikeet nest was detected in a non-design specific LG box and *Trichoglossus* spp. was recorded in a SG box, although most were recorded in design specific P/L boxes (Figure 3). Australian owlet-nightjars (“other bird” category in Figure 3) were detected in Po, P/L, LFO, and LG boxes and an Australian wood duck (“other bird” category in Figure 3) nest was found in a LFO box (Figure 3). Lace monitors were recorded occupying LG, SG, Po, SO and P/L boxes (Figure 3). No cockatoo or small owl species were recorded. Possum, microbat, cockatoo and large forest owl boxes had greater than 25% vacancy rates.

Non-target species, such as ants, European and native bees, were detected in eight of the nine box designs (Figure 3). LFO was the only design not used by ants or bees. European bees (*Apis* spp.) tended to favor large diameter entry boxes (Po, C, So, LG) whereas native bees (*Tetragonula* and *Austroplebeia* spp) were found in boxes with small diameter entries (SG, SM, LG, P/L) (See Appendix B, Table B1). Ants were found in all nest box designs except LFO (see Appendix B, Table B1). Two

species of rodent, including the introduced black rat, were detected on eight occasions during the construction phase only (Table 4).

3.2 Nest box condition during construction and operation

A total of 29 (12.7%) boxes required maintenance or replacement during year 4 (2020-21) operational monitoring (Figure 4). Causes for repair included hinge and lid reattachment (14 boxes), wire/spring failure (4 boxes), water pooling (4 boxes), wire growing into tree (1 box), obstruction by branch (1 box), and destroyed by private logging (5 boxes) (see Appendix B, Table B1). A total of 20 repairs were undertaken in summer 2021, with five boxes not replaced due to private logging (SM I12, LG I25, SM I26, C I7, MB I9). A further three boxes were deemed functional (missing one hinge with lid still attached) and one box (requiring lid re-attachment) was inaccessible for repairs due to flooding.

Deterioration of nest boxes over time was apparent, with the number of nest boxes requiring repairs almost doubling from 15 (6.6%) to 29 (12.7%) between year 2 and year 4 of the operational phase (Figure 4). Two boxes required repair during construction phase monitoring (Figure 4).

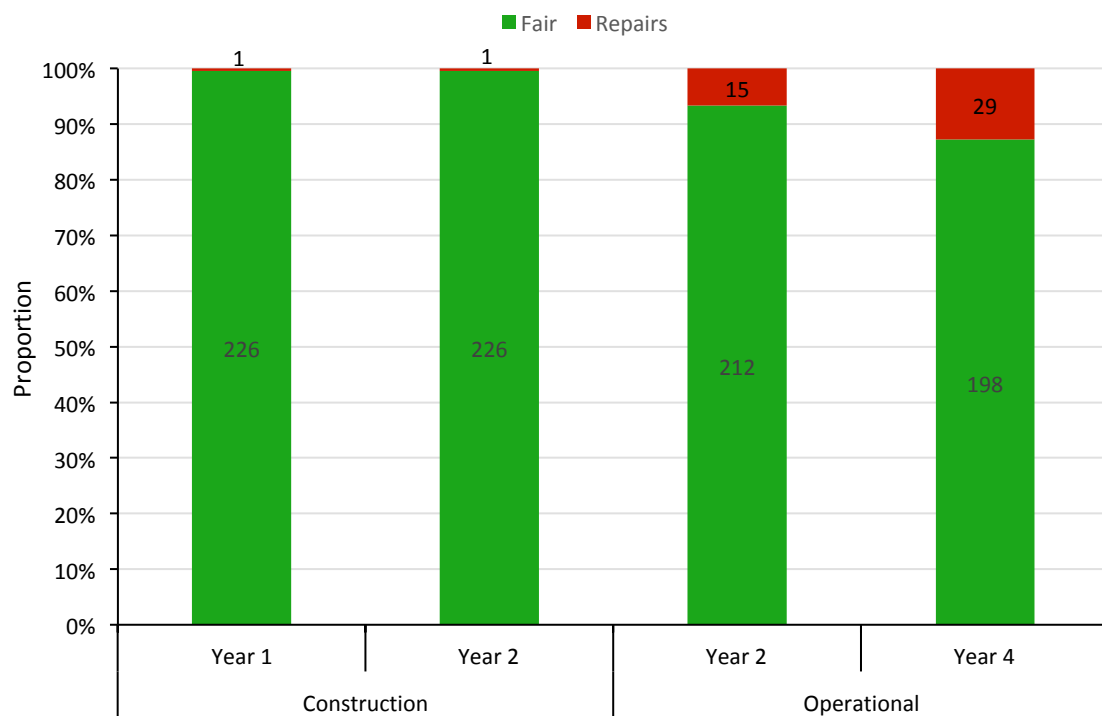


Figure 4: Nest boxes requiring repair or replacement (repairs) during construction and operational phase monitoring at NH2U, 2021.

4. Discussion

The outcomes of construction and operational nest box monitoring are discussed in the context of the performance criteria outlined in section 3.7.2 of the EMP. Key findings in relation to performance criteria are presented in Table 6.

Table 6: Summary of key findings in relation to performance criteria.

Performance criteria	Finding
Low rates of nest box occupancy by feral species	Overall, incidence of feral species occupation was low. European bees tended to vacate nest boxes within months of occupation and vertebrate fauna species were recorded reoccupying boxes after European bee abandonment.
Use of nest boxes by a wide variety of hollow-using native fauna species	Species diversity occupying nest boxes on the NH2U project is higher than or consistent with other Pacific Highway projects.
Species using nest boxes is consistent with the nest box design	Small and medium nest boxes, including small glider, possum, parrot, scansorial mammal and microbat designs, were used by the target species. Larger nest boxes, such as cockatoo, small owl and large forest owl, were not used by the target species.
High level of nest box durability with minimal maintenance requirements	In 2020/21 12.6% of boxes required maintenance, which is similar to other nest box projects on the north coast. Box deterioration is predicted to increase after 5-6 years, particularly where boxes occur in moist forest as seen at NH2U.

4.1 Low rates of nest box occupancy by feral species

Rates of nest box use by feral species at NH2U are considered low. European bees have been considered a problem for nest box programs as they occupy boxes to the exclusion of targeted species (Beyer and Goldingay 2006; Lewis 2016). The number of boxes with active hives during monitoring years ranged from <1% (in 2016) to 2.6% (in 2021). Occupancy rates for European beehives at NH2U are consistent with nest box monitoring at Coopernook to Herons Creek (2.5% active hives) and Warrell Creek to Nambucca heads (<1% active hives) (Sandpiper 2020). At NH2U, abandoned European beehives were recorded on 22 occasions, often being replaced by small glider dens. Observations from previous research (Goldingay *et al.* 2015) suggest European beehive infestations can be ignored as hives are typically abandoned within 12 months and are replaced by native vertebrates. No ameliorative action was undertaken regarding active European bee hives based on published evidence and previous experience.

Ants were frequently recorded using nest boxes particularly during summer months. Ants are commonly found in nest boxes and there is limited information regarding potential competitive interactions between them and native vertebrates (Goldingay 2006). A study by Dobson (2002 cited in Beyer and Goldingay 2006) reported that squirrel gliders were not deterred by the presence of ants and feathertail gliders have been observed in bat boxes containing ants. No ameliorative action was undertaken regarding ant occupancy during year 4 monitoring based on this information.

4.2 Use of nest boxes by a wide variety of hollow-using native fauna species

Species richness at NH2U was comparable to or higher than other nest box projects on the north coast of NSW with a total of 14 species and genera recorded. For example, between nine and 15 species and genera were detected during monitoring for the Hunter Expressway (Sandpiper 2013) and nine have been recorded at Warrell Creek to Nambucca Heads (Sandpiper 2020), Coopernook to Heron Creek and Sapphire to Woolgoolga (Sandpiper 2015, 2016).

Of the 19 species displaced during clearing, 10 (53%) were recorded using nest boxes. This is an encouraging result considering four of the species recorded during clearing but not during operation were tree frogs (4 species) and one, pink tongued skink, is not an obligate hollow-using species. In

addition to the tree frogs and skink, two species of microbat (Gould's Wattled Bat and *Mormopterus* spp.) were reported utilising hollows and not nest boxes. Detection of bats in boxes is difficult as infrequent use may leave minimal evidence (e.g. scat, wear markings) and it is possible that these species were grouped as microbat spp.

Small petaurid gliders (mostly sugar gliders) were frequent nest box users throughout both the construction and operation phase monitoring. This is consistent with findings by Goldingay *et al* (2020) and is likely a reflection of their broader habitat requirements, local abundance and high number of suitable boxes (e.g. boxes with small entrances). Reptiles (2 species) and frogs (1 species) were the least detected fauna group which is unsurprising given that they were not targeted by the nest box program and often do not leave obvious evidence of use (i.e. nesting material).

Low use of nest boxes by birds is consistent with other nest box programs (e.g. Menkhorst 1984; Sandpiper 2016, 2017, 2018, 2019). While infrequent use of nest boxes by birds may indicate that adequate hollow resources exist in the local landscape, other limiting factors include: (1) use of nest boxes for temporary roosting (Lindenmayer *et al.* 2009); (2) box thermoregulation (Goldingay and Stevens 2009); (3) placement (nest box location) (Saunders *et al.* 2020); (4) competitive interactions with other species; and (5) rapid occupation of suitable boxes by mammals (Lindenmayer *et al.* 2009).

Certain species of bird may prefer natural hollows to nest boxes and only use nest boxes as temporary roosting sites, making detection difficult as signs may not be readily apparent (e.g. guano/faeces) or may be covered by mammal leaf nests (Lindenmayer *et al.* 2009) Further, the limited insulation capacity of nest boxes may inhibit bird use during higher summer temperatures, hence aspect is an important consideration in nest box placement (Goldingay and Steven 2009; Saunders *et al* 2020). Recently, Saunders *et al.* (2020) considered nest box placement relative to land use type as an important factor in determining use by Carnaby's Cockatoo (*Calyptorhynchus latirostris*). These findings suggest that birds make subtle choices about where to build nests and hence nest box placement within a given landscape will affect use.

The overall rate of use (i.e. sum of boxes occupied and those featuring evidence of use) during the operational phase was higher than the construction phase. Overall use rates tend to rise with time since installation as fauna find and utilise more boxes (leaving remnant nesting material) (Goldingay *et al.* 2020) and boxes are inhabited by invertebrates such as native beehives which tended to persist in boxes at NH2U.

4.3 Species use of nest boxes is consistent with the species targeted by the nest box design

Five of nine box types (55%), small glider, possum, scansorial mammal, parrot/lorikeet and microbat were used by the target species. Box entrance size is considered important in determining use by target species (Goldingay *et al.* 2020). Small gliders accounted for 59% of occupied SG boxes and had the highest use by a target species. This finding is consistent with recent findings by Goldingay *et al.* (2020) who found that gliders were far more likely to use the small glider box due to its small diameter opening in comparison to other nest box designs (such as Po, Co and So). Parrot/Lorikeet and Scansorial Fauna designs also had small diameter entries, which likely contribute to moderate levels of use by small gliders. Po boxes recorded 52% usage by possum species (e.g. short-eared brushtail possum, common brushtail possum, and common ringtail possum). Other box types (SG, P/L, SF, MB) typically exclude possums due to their smaller entrance diameter (Goldingay *et al.* 2020).

Cockatoo, small owl and large owl designs were not used by the target species, which is consistent with monitoring at other sites (Sandpiper Ecological 2015, 2017, 2020, Goldingay 2019). In deed, owls and cockatoos have not been recorded using any nest boxes installed for the Pacific Highway upgrade and based on existing evidence these box types should not be included in future nest box programs. It is unclear if supplementary hollows are warranted for these species given the size of their home ranges and the linear nature of highway-related impacts.

Although glossy-black cockatoo (*C. lathami*) and red-tailed black cockatoo (*C. banksii*) have been recorded using round polyvinyl chloride nest boxes on Kangaroo Island and in western Victoria respectively (Goldingay & Stevens 2009), and Carnaby's black cockatoo (*C. latirostris*) has been recorded using a variety of designs in Western Australia (Groom 2010) there is a paucity of records of cockatoos using plywood nest boxes. It is unclear if this is due to poor design and/or placement, both of which influence box usage by Carnaby's cockatoo (Saunders *et al* 2020). Similarly, there are few records of owls using nest boxes (Thomson 2006; Goldingay 2019).

Parrot/Lorikeet boxes recorded relatively low use by target species, a result partly attributed to exclusion through occupation by other species, particularly small gliders (Menkhorst 1984; Goldingay *et al.* 2020). Glider leaf nests can exclude use by parrots, which prefer a decayed wood base for nesting (Lewis 2016). Rapid uptake of boxes by gliders would preclude parrots, which only begin searching for nest sites prior to the breeding season.

Microbat use of MB boxes at NH2U was low with bats detected in 7% of bat boxes over the entire monitoring period. This result is similar to the 5% occupancy reported by Rueegger *et al.* (2019). That study investigated box use by Gould's wattled bat (*Chalinolobus gouldii*), which was also reported during clearing at NH2U. Reasons specified for low occupancy include inadequate solar exposure of boxes, and box design was less suitable compared to tree hollows (Rueegger *et al.* 2019).

4.4 High level of nest box durability with minimal maintenance requirements.

The majority of nest boxes (198 of 227, 87.2%) remain in fair condition, however maintenance, due to deterioration, was undertaken on 20 nest boxes during the recent summer 2021 monitoring period. The five nest boxes destroyed by logging have not been replaced and based on the likelihood of further logging at that site do not warrant replacing. In addition, a substantial number of boxes remain at that locality (i.e. Zone I) and replacement of the damaged boxes elsewhere in zone I would not further offset impacts associated with the highway upgrade.

The number of boxes requiring repair or replacement will increase over time, although boxes at NH2U have fared better than many other sites. For example, all 79 boxes installed for the Cooperook to Herons Creek upgrade required maintenance or replacement seven years after installation (Sandpiper Ecological 2015), with a similar result recorded at Sapphire to Woolgoolga. Beyer and Goldingay (2006) suggested that most plywood boxes would persist for ~5 years but conceded that box design and site features influenced longevity. The increased longevity of boxes at NH2U may be due to their construction from thicker (30mm) ply. The benefit of thicker ply may be offset by use of springs to join wire to the box, which represents a weak point and should be avoided in future nest box programs. Screws, hinges and lids are consistent points of failure 4-7 years after installation (Sandpiper 2016) and constructing boxes with fixed hardwood lids would overcome this design limitation.

The NH2U nest box monitoring program has been undertaken in accordance with the requirement of the NH2U Nest Box Plan of Management and is considered to have achieved the required objectives and therefore further monitoring is not warranted.

5. Contingency Measures and Recommendations

5.1 Contingency Measures

Contingency measures specified in the NBPoM to address problems with the NH2U nest box program are outlined in Table 7. Mitigation measures applicable to the project are addressed in bold text in Table 7.

Table 7: Potential problems outlined in NBPoM and possible contingency measures.

Problem	Contingency/Corrective Action
Nest boxes being used by non-target species	Review the selection and number of nest box designs. No action required – 55% of the specific designed box types are being used by target species. Relocating boxes unlikely to improve use.
Nest boxes become occupied by exotic or invasive fauna	Review/modify nest box design to exclude undesirable species, treat if applicable or relocate those nest boxes to another location. No immediate action required - incidence of feral species occupation was low.
Poor uptake and usage rates by native fauna	Review the type and number of nest box designs. No action required – nest box occupancy and use by native species is consistent with other projects, and the overall use rate is high with between 60 and 70% of boxes either occupied or showing evidence of use in year 4 of the operational phase.
Nest boxes deteriorating rapidly and requiring maintenance	Identify causes of nest box failure, modify design and construct accordingly. Replace five nest boxes destroyed by private logging

5.2 Recommendations

Recommendations from the year 4 operational phase nest box monitoring program are summarised in Table 8.

Table 8: Recommendations based on findings from operational phase monitoring and response from TfNSW.

Number	Recommendation	Transport for NSW Response
1.	Construction and operational phase nest box monitoring has addressed the intent of the NH2U Nest Box Plan of Management and further monitoring is not required.	Agree no further monitoring required
2.	Cockatoo, small owl and large forest owl boxes should not be installed on future highway upgrade projects unless applied in a targeted manner to offset known and direct impacts on an existing nest tree.	Agree to be considered for future projects
3.	Future nest box programs should consider using fixed lids and only high quality plastic coated wire to attach boxes to trees.	Agree to be considered for future projects.

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Appendix A – Installation data for NH2U nest boxes.

Table A1: Location, height, orientation, habitat, installation date, tree species and box type for all nest boxes installed on NH2U project. DOF = Dry Open Forest, R = Riparian, MOF = Moist Open Forest, SF = Swamp Forest

Zone	Box type	Easting	Northing	Tree species	Height	Orientation	Habitat	Installation date
H	Large glider	497438	6610869	Blackbutt	8	n	DOF	23/07/2015
H	Parrot	497436	6610865	Blackbutt	8	ne	DOF	23/07/2015
H	Scansorial	497415	6610872	Turpentine	5	n	DOF	23/07/2015
I	Microbat	497573	6613805	Turpentine	6	nw	DOF	11-14/3/2014
I	Possum	497573	6613805	Turpentine	5	ene	DOF	11-14/3/2014
I	Small glider	497577	6613821	Tallowwood	8	ne	DOF	11-14/3/2014
I	Medium Parrot	497770	6613817	Blackbutt	7	ene	DOF	11-14/3/2014
I	Possum	497792	6613837	Turpentine	5	ne	DOF	20-23/8/2014
I	Large glider	497745	6613845	Mahogany spp	8	ne	DOF	11-14/3/2014
I	Black Cockatoo	497722	6613853	Blackbutt	10	ne	DOF	11-14/3/2014
I	Medium Parrot	497735	6613898	Blackbutt	8	ne	DOF	11-14/3/2014
I	Microbat	497915	6613786	Blackbutt	6	nw	DOF	11-14/3/2014
I	Possum	497903	661301	Turpentine	5	e	DOF	11-14/3/2014
I	Scansorial mammal	497904	6613817	Blackbutt	5-6	n	DOF	11-14/3/2014
I	Small glider	497957	6613801	Blackbutt	7	n	DOF	11-14/3/2014
I	Possum	498171	6614027	Mahogany spp	6	ne	DOF	20-23/8/2014
I	Medium Parrot	498173	6614022	Angophora costata	7	n	DOF	20-23/8/2014
I	Scansorial mammal	498191	6614024	Ironbark	5	ne	DOF	20-23/8/2014
I	Microbat	498205	6614107	Ironbark	7	n	R	20-23/8/2014
I	Medium Parrot	498216	6614088	Ironbark	7	ne	R	20-23/8/2014
I	Small glider	498226	6614109	Ironbark	6	n	R	11-14/3/2014
I	Possum	498030	6613997	Blackbutt	6	n	DOF	20-23/8/2014
I	Small glider	498052	6613984	Blackbutt	8	n	DOF	20-23/8/2014
I	Black Cockatoo	497969	6613897	Blackbutt	9	e	DOF	20-23/8/2014
I	Large glider	497969	6613897	Blackbutt	6	n	DOF	20-23/8/2014
I	Scansorial mammal	497986	6613890	Tallowwood	5	ne	DOF	11-14/3/2014
I	Small glider	497640	6613903	Tallowwood	7	ne	DOF	11-14/3/2014
I	Large glider	497629	6613911	Blackbutt	9	n	DOF	11-14/3/2014
I	Scansorial mammal	497629	6613911	Blackbutt	5	ne	DOF	20-23/8/2014
I	Possum	497645	6613879	Mahogany spp	5	n	DOF	11-14/3/2014
I	Microbat	498010	6613782	Blackbutt	8	nw	DOF	11-14/3/2014
I	Scansorial mammal	498012	6613785	Turpentine	5	n	DOF	11-14/3/2014
I	Possum	498016	6613748	Blackbutt	5	n	DOF	20-23/8/2014
I	Small glider	498168	6613877	Blackbutt	6	n	DOF	11-14/3/2014
I	Possum	498168	6613879	Mahogany spp	5	ne	DOF	11-14/3/2014
K	Possum	500179	6617307	Turpentine	5	ne	DOF	20-23/8/2014
K	Microbat	500168	6617299	Tallowwood	5	ne	DOF	20-23/8/2014
K	Small glider	500185	6617296	Blackbutt	6	ne	DOF	20-23/8/2014
K	Large glider	500191	6617334	Blackbutt	9	ne	DOF	11-14/3/14
K	Medium Parrot	500234	6617075	Swamp Mahogany	8	n	SF	11-14/3/14
K	Scansorial mammal	500227	6617073	Swamp Mahogany	5	e	SF	20-23/8/2014
K	Large glider	500221	6617084	Swamp Mahogany	8	ne	SF	20-23/8/2014
K	Possum	500214	6617098	Swamp Mahogany	5	e	SF	11-14/3/14
K	Possum	500305	6617077	Turpentine	6	n	DOF	20-23/8/2014
K	Large glider	500299	6617068	Blackbutt	6	n	DOF	11-14/3/14
K	Possum	500208	6616923	Hoop Pine	5	n	SF	20-23/8/2014
K	Microbat	500210	6616915	Rainforest tree	5	nr	SF	11-14/3/14
K	Scansorial mammal	500221	6616910	Rainforest tree	6	ne	SF	11-14/3/14
K	Medium Parrot	500141	6616830	Flooded Gum	9	ne	DOF	20-23/8/2014
K	Small glider	500149	6616818	Ironbark	6	n	DOF	11-14/3/14
K	Possum	500124	6616832	Tallowwood	7	ne	DOF	11-14/3/14
K	Large glider	500112	6616856	Ironbark	9	ne	DOF	20-23/8/2014
K	Microbat	500094	6616866	Tallowwood	6	nw	DOF	20-23/8/2014
K	Small Owl	500090	6616863	Tallowwood	9	n	DOF	11-14/3/14
K	Small glider	500099	6617338	Tallowwood	6	ne	DOF	20-23/8/2014
K	Medium Parrot	500090	6617341	Tallowwood	6	n	DOF	11-14/3/14
K	Possum	503761	6617327	Mahogany spp	7	n	DOF	20-23/8/2014
K	Scansorial mammal	500116	6617340	Tallowwood	6	n	DOF	20-23/8/2014
K	Large forest owl	500102	6617222	Blackbutt	15	e	DOF	11-14/3/14

Zone	Box type	Easting	Northing	Tree species	Height	Orientation	Habitat	Installation date
K	Microbat	500130	6617222	Blackbutt	6	n	DOF	11-14/3/14
K	Possum	500081	6617223	Blackbutt	7	n	DOF	11-14/3/14
K	Small Owl	500102	6617143	Pink Bloodwood	9	se	DOF	20-23/8/2014
K	Large glider	500109	6617126	Blackbutt	9	ne	DOF	20-23/8/2014
K	Scansorial mammal	500116	6617137	Unidentified spp	6	ne	DOF	11-14/3/14
K	Small glider	500132	6617160	Tallowwood	6	ne	DOF	11-14/3/14
K	Medium Parrot	500280	6617214	Blackbutt	8	ne	DOF	20-23/8/2014
K	Possum	500298	6617201	Blackbutt	5	ne	DOF	20-23/8/2014
K	Scansorial mammal	500305	6617183	Turpentine	5	n	DOF	20-23/8/2014
K	Small glider	500387	6617267	Blackbutt	8	ne	DOF	20-23/8/2014
K	Microbat	500387	6617267	Blackbutt	5	nw	DOF	20-23/8/2014
K	Possum	500378	6617280	Blackbutt	6	se	DOF	20-23/8/2014
K	Medium Parrot	500366	6617266	Tallowwood	5	n	DOF	20-23/8/2014
K	Scansorial mammal	500347	6617262	Blackbutt	5	e	DOF	11-14/3/14
K	Medium Parrot	500049	6616797	Flooded Gum	7	n	DOF	11-14/3/14
K	Microbat	500060	6616801	Tallowwood	5	w	DOF	20-23/8/2014
K	Black Cockatoo	500031	6616822	Tallowwood	8	n	DOF	20-23/8/2014
K	Possum	500045	6616836	Tallowwood	7	ne	DOF	11-14/3/14
K	Large glider	500018	6616827	Tallowwood	7	ne	DOF	11-14/3/14
K	Large glider	500106	6616715	Pink Bloodwood	9	ene	DOF	20-23/8/2014
K	Scansorial mammal	500140	6616724	Pink Bloodwood	4	ne	DOF	20-23/8/2014
K	Possum	500140	6616724	Pink Bloodwood	7	n	DOF	20-23/8/2014
K	Small glider	500141	6616722	Tallowwood	8	n	DOF	20-23/8/2014
K	Small glider	500233	6616810	Tallowwood	7	e	DOF	20-23/8/2014
K	Possum	500233	6616814	Tallowwood	5	ne	DOF	20-23/8/2014
K	Large glider	500222	6626795	Ironbark	8	n	DOF	11-14/3/14
K	Scansorial mammal	500286	6616991	Swamp Mahogany	5	ne	SF	20-23/8/2014
K	Possum	500286	6616991	Swamp Mahogany	7	n	SF	20-23/8/2014
K	Medium Parrot	500286	6616991	Swamp Mahogany	8	n	SF	20-23/8/2014
K	Microbat	500294	6616984	Swamp Mahogany	5	n	SF	20-23/8/2014
K	Small glider	500284	6616981	Swamp Mahogany	8	n	SF	20-23/8/2014
K	Medium Parrot	500020	6616725	Blackbutt	8	ne	DOF	20-23/8/2014
K	Large glider	500020	6616725	Blackbutt	9	n	DOF	20-23/8/2014
K	Possum	499992	6616729	Tallowwood	6	se	DOF	11-14/3/14
K	Microbat	500022	6616719	Tallowwood	6	nw	DOF	11-14/3/14
K	Black Cockatoo	499973	6616679	Blackbutt	12	ne	DOF	20-23/8/2014
K	Small glider	499973	6616679	Blackbutt	8	ne	DOF	20-23/8/2014
K	Scansorial mammal	499978	6616664	Blackbutt	5	e	DOF	11-14/3/14
K	Possum	499998	6616661	Tallowwood	6	ne	DOF	11-14/3/14
K	Medium Parrot	500081	6616645	Blackbutt	6	ne	DOF	11-14/3/14
K	Possum	500091	6616648	Eucalyptus spp	7	n	DOF	11-14/3/14
K	Black Cockatoo	500146	6617364	Blackbutt	9	e	DOF	11-14/3/14
K	Large glider	500403	6617230	Blackbutt	6	ne	DOF	
J	Medium Parrot	498971	6615572	Flooded Gum	8	n	MOF	11-14/3/14
J	Possum	498971	6615585	Tallowwood	8	e	MOF	11-14/3/14
J	Scansorial mammal	498971	6615585	Tallowwood	5	n	MOF	11-14/3/14
J	Small glider	499089	6615567	Blackbutt	7	ne	DOF	20-23/8/2014
J	Small Owl	499087	6615562	Blackbutt	9	ne	DOF	20-23/8/2014
J	Large glider	499085	6615556	Blackbutt	8	n	DOF	20-23/8/2014
J	Microbat	499118	6615485	Tallowwood	8	n	DOF	20-23/8/2014
J	Scansorial mammal	499149	6615484	Tallowwood	5	n	DOF	20-23/8/2014
J	Possum	499149	6615484	Tallowwood	8	ne	DOF	20-23/8/2014
J	Microbat	498949	6615660	Blackbutt	8	nw	DOF	11-14/3/14
J	Possum	498948	6615683	Tallowwood	5	ne	DOF	20-23/8/2014
J	Small glider	498948	6615683	Tallowwood	8	ne	DOF	11-14/3/14
J	Medium Parrot	498966	6615612	Flooded Gum	8	ne	DOF	20-23/8/2014
J	Small glider	499267	6615539	Blackbutt	5	ne	DOF	20-23/8/2014
J	Small Owl	499282	6615566	Blackbutt	8	ne	DOF	11-14/3/14
J	Large glider	499286	6615570	Blackbutt	8	ne	DOF	20-23/8/2014
J	Medium Parrot	499291	6615595	Tallowwood	8	n	DOF	11-14/3/14
J	Possum	499297	6615577	Eucalyptus spp	6	n	DOF	11-14/3/14
J	Scansorial mammal	499307	6615586	Eucalyptus spp	5	n	DOF	11-14/3/14
J	Large glider	499011	6615777	Tallowwood	8	e	DOF	20-23/8/2014
J	Small glider	499001	6615776	Swamp Mahogany	5	n	DOF	11-14/3/14
J	Black Cockatoo	498971	6615738	Blackbutt	10	e	DOF	20-23/8/2014
J	Parrot	499375	6615627	Blackbutt	7	ne		23/07/2015

Zone	Box type	Easting	Northing	Tree species	Height	Orientation	Habitat	Installation date
J	Scansorial	499364	6615643	Blackbutt	6	ne		23/07/2015
J	Small Glider	499364	6615633	Blackbutt	8	e		23/07/2015
J	Possum	499385	6615657	Blackbutt	6	n		23/07/2015
J	Microbat	499401	6615648	Melaleuca quinquenervia	5	nw		23/07/2015
J	Small glider	499483	6615763	Swamp Mahogany	8	ne		23/07/2015
J	Parrot	499469	6615767	Blackbutt	7	e		23/07/2015
J	Small Glider	499493	6615758	Swamp Mahogany	7	ne		23/07/2015
L	Medium parrot	500283	6618795	Blackbutt	6	e	DOF	20-23/8/14
L	Small glider	500245	6618767	Tallowwood	7	n	R	20-23/8/14
L	Scansorial mammal	500247	6618741	Red Mahogany	5	n	R	20-23/8/14
L	Possum	500258	6618762	Blackbutt	7	n	R	20-23/8/14
L	Microbat	500285	6618764	Turpentine	6	w	R	20-23/8/14
L	Scansorial mammal	500400	6618915	Swamp Mahogany	4	ne	R	20-23/8/14
L	Medium parrot	500356	6618908	Blackbutt	8	n	DOF	20-23/8/14
L	Large glider	500377	6618919	Blackbutt	8	n	DOF	20-23/8/14
M	Possum	500288	6619042	Blackbutt	7	ne	R	7-9/4/2014
M	Microbat	500290	6619029	Blackbutt	5	nw	R	7-9/4/2014
M	Scansorial mammal	500261	6619028	Turpentine	5	ne	R	7-9/4/2014
M	Small glider	500159	6618998	Blackbutt	8	n	DOF	7-9/4/2014
M	Microbat	500155	6619003	Blackbutt	8	nw	DOF	7-9/4/2014
M	Small owl	500132	6619005	Blackbutt	9	n	DOF	7-9/4/2014
M	Scansorial mammal	500128	6619009	Small-fruited Grey Gum	5	ne	DOF	7-9/4/2014
M	Microbat	500028	6618992	Blackbutt	8	nw	DOF	7-9/4/2014
M	Large glider	500024	6618987	Eucalyptus spp	5	n	DOF	7-9/4/2014
M	Medium Parrot	500013	6618966	Tallowwood	7	e	DOF	7-9/4/2014
M	Possum	500016	6618972	Blackbutt	7	ne	DOF	7-9/4/2014
M	Small glider	499921	6619024	Ironbark	5	ne	R	7-9/4/2014
M	Possum	499918	6619063	Brush Box	5	ne	R	7-9/4/2014
M	Scansorial mammal	499918	6619064	Brush Box	4	se	R	7-9/4/2014
M	Black Cockatoo	499891	6619070	Blackbutt	9	ne	R	7-9/4/2014
M	Large glider	499880	6619070	Small-fruited Grey Gum	8	ne	R	7-9/4/2014
M	Medium parrot	500376	6619030	Tallowwood	5	n	R	7-9/4/2014
M	Scansorial mammal	500391	6619019	Tallowwood	4	ne	R	7-9/4/2014
M	Possum	500382	6619010	Blackbutt	7	ne	DOF	7-9/4/2014
M	Large glider	500382	6619018	Tallowwood	8	n	DOF	7-9/4/2014
M	Small glider	500506	6618807	Tallowwood	5	n	DOF	7-9/4/2014
M	Microbat	500526	6618813	Blackbutt	8	nw	DOF	7-9/4/2014
M	Scansorial mammal	500518	6618808	Blackbutt	5	ne	DOF	7-9/4/2014
M	Black Cockatoo	500523	6618865	Blackbutt	10	ne	DOF	7-9/4/2014
M	Large Glider	500530	6618859	Tallowwood	6	ne	DOF	7-9/4/2014
N	Large glider	499925	6621808	Small-fruited Grey Gum	7	ne	R	7-9/4/2014
N	Possum	499934	6621849	Blackbutt	7	n	R	7-9/4/2014
N	Scansorial mammal	499934	6621849	Pink Bloodwood	5	e	R	7-9/4/2014
N	Scansorial mammal	499618	6621961	Tallowwood	5	n	DOF	7-9/4/2014
N	Large glider	499621	6621977	Blackbutt	6	n	DOF	7-9/4/2014
N	Small glider (RE)	499846	6621927	White Mahogany	8	e		23/07/2015
N	Small glider (RE)	499857	662192?	White Mahogany	8	ne		23/07/2015
N	Small glider	499866	6621928	Angophora costata	6	ne		23/07/2015
O	Large glider	499141	6622325	Small-fruited Grey Gum	8	ne	DOF	7-9/4/14
O	Scansorial mammal	499141	6622325	Turpentine	5	n	DOF	7-9/4/14
O	Small glider	499115	6622334	Blackbutt	8	n	DOF	7-9/4/14
O	Large glider	499193	6622483	Eucalyptus spp	8	n	DOF	7-9/4/14
O	Scansorial mammal	499211	6622495	Tallowwood	4	ne	DOF	7-9/4/14
O	Small glider	499220	6622455	Pink Bloodwood	6	n	DOF	7-9/4/14
O	Small owl	498694	6622645	Pink Bloodwood	10	n		24/07/2015
O	Parrot	498697	6622640	Small-fruited grey gum	8	ne		24/07/2015
O	Scansorial	498652	6622707	Turpentine	5	n		24/07/2015
O	Possum	498646	6622709	Ironbark	8	nw		24/07/2015
O	Microbat	498926	6622580	ironbark	5	nw		24/07/2015
O	Possum	498935	6622587	Grey Gum	6	e		24/07/2015
O	Scansorial	498962	6622582	Ironbark	5	e		24/07/2015
O	Microbat	498910	6622598	Bloodwood	5	w		24/07/2015
O	Large forest owl	499038	6622513	Bloodwood	13	e		24/07/2015
O	Possum (ad)	As above		Bloodwood	7	ne		24/07/2015
O	Small glider (RE)	499074	6622518	Tallowwood	8	ne		24/07/2015
O	Small glider	499166	6622500	Bloodwood	6	n		24/07/2015

Zone	Box type	Easting	Northing	Tree species	Height	Orientation	Habitat	Installation date
P	Microbat	498030	6624064	Swamp Mahogany	6	nw	SF	7-9/4/14
P	Small glider	498028	6624062	Swamp Mahogany	5	n	SF	7-9/4/14
P	Scansorial mammal	498024	6624070	Turpentine	5	n	DOF	7-9/4/14
P	Large glider	497993	6624118	Blackbutt	6	n	DOF	7-9/4/14
P	Medium Parrot	497983	6624166	Pink Bloodwood	6	e	DOF	7-9/4/14
Q	Possum	498155	6626510	Turpentine	6	ne	MOF	7-9/4/14
Q	Scansorial mammal	498156	6626518	Tallowwood	5	ne	MOF	7-9/4/14
Q	Medium Parrot	498177	6626545	Turpentine	6	ne	MOF	7-9/4/14
Q	Small Owl	498221	6626600	Tallowwood	10	se	MOF	7-9/4/14
Q	Small glider	498224	6626596	Eucalyptus spp	6	ne	MOF	7-9/4/14
Q	Scansorial mammal	498241	6626629	Pink Bloodwood	5	ne	MOF	7-9/4/14
Q	Large glider	498242	6626651	Eucalyptus spp	6	ne	MOF	7-9/4/14
Q	Possum	498245	6626662	Eucalyptus spp	6	ne	MOF	7-9/4/14
Q	Medium parrot	498372	6626901	Tallowwood	6	n	MOF	7-9/4/14
Q	Large glider	498380	6626915	Eucalyptus spp	5	n	MOF	7-9/4/14
Q	Possum	498420	6626935	Tallowwood	6	e	MOF	7-9/4/14
Q	Small glider	498079	6626595	Pink bloodwood	7	nw		24/07/2015
Q	Parrot	498102	6626635	Grey gum	8	nw		24/07/2015
Q	Large glider	498096	6626643	White mahogany	10	n		24/07/2015
Q	Microbat	498100	6626653	Grey Ironbark	5	nw		24/07/2015
Q	Small owl	498210	6626859	Tallowwood	9	nw		24/07/2015
Q	Small glider	498231	6626907	White stringybark	8	nw		24/07/2015
Q	Parrot	498234	6626915	Pink bloodwood	8	ne		24/07/2015
Q	Large forest owl	497902	6626256	Ironbark	17	w		24/07/2015
Q	Possum (ad)	As above		Grey ironbark	7	ne		24/07/2015
R	Large glider	498809	6627460	Eucalyptus spp	6	me	DOF	7-9/4/14
R	Scansorial mammal	498808	6627449	Pink Bloodwood	5	ne	DOF	7-9/4/14
R	Microbat	498813	6627450	Ironbark	7	nw	DOF	7-9/4/14
R	Possum	498787	6627462	Ironbark	6	e	DOF	7-9/4/14
R	Large glider	498737	6627363	Swamp Mahogany	7	ne	R	7-9/4/14
R	Scansorial mammal	As above		Swamp Mahogany	5	n	R	7-9/4/14
R	Large glider	498693	6627498	Grey gum	8	ne	MOF	7-9/4/14
R	Possum	498688	6627495	Ironbark	6	ne	MOF	7-9/4/14
R	Medium parrot	498712	6627545	Grey gum	8	ne	MOF	7-9/4/14
R	Small glider	498627	6627448	Tallowwood	7	ne		24/07/2015
R	Large forest owl	499037	6627775	Pink Bloodwood	14	ne		24/07/2015

Appendix B – Nest Box Inspection Data Operation

Monitoring Year 4

Table B1: Nest box inspection data from 2020-2021 (Year 4) along the NH2U Pacific Highway Upgrade. CBtP = Common Brushtail Possum; SEBtP = Short-Eared Brushtail Possum; BtPoss = Brushtail Possum (Common or Short-eared); CRtP = Common Ringtail Possum; SuG = Sugar Glider; FtG = Feathertail Glider; OnJ = Owllet Nightjar; Euro = European; pet = Petaurid; Pr = Probable; Po = Possible, Def = Definite.

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
H1	Large glider	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
H2	Medium Parrot	10/2/21	-	Old bird nest	Bird spp.	Pr	Fair	Fair
H3	Scansorial mammal	10/2/21	-	FtG nest	Acrobates spp.	D	Fair	Fair
I1	Microbat	10/2/21	-	-		D	Fair	Fair
I10	Possum	10/2/21	-	Old leaf, BtPoss	Trichosurus spp.	D	Fair	Fair
I11	Scansorial mammal	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
I12	Small glider		-	-		D	Down, tree cut	Fair
I13	Possum	12/2/21	-	Scattered leaves, BtPoss spp	Trichosurus spp.	D	Fair	Fair
I14	Medium Parrot	10/2/21	-	Lorikeet feathers	Lorikeet spp.	D	Fair	Fair
I15	Scansorial mammal	10/2/21	-	Messy leaf nest, pr antechinus	Antechinus spp.	D	Fair	Fair
I16	Microbat	10/2/21	10-15 Microbats - species check	-	Microbat spp.	D	Fair	Fair
I17	Medium Parrot	10/2/21	-	Decomposed material	Old leaf	D	Fair	Fair
I18	Small glider	10/2/21	2 x Sug min.	-	Sugar glider	D	Fair	Fair
I19	Possum	10/2/21	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
I2	Possum	10/2/21	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
I20	Small glider	10/2/21	Sugar glider x 3 atleast	-	Sugar glider	D	Fair	Fair
I21	Black Cockatoo	10/2/21	-	BtPoss nest	Trichosurus spp.	D	Fair	Fair
I22	Large glider	10/2/21	euro beehive	-	Invertebrate	D	Fair	Fair
I23	Scansorial mammal	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
I24	Small glider	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
I25	Large glider		-	-		D	Down tree cut	Fair
I26	Scansorial mammal	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
I27	Possum	10/2/21	CBTP x 1	-	Trichosurus spp.	D	Fair	Fair
I28	Microbat	10/2/21	-	FtG nest	Acrobates spp.	D	Fair	Fair
I29	Scansorial mammal	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
I3	Small glider	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
I30	Possum	10/2/21	-	Old Btposs	Trichosurus spp.	D	Fair	Fair
I31	Small glider	10/2/21	Sugar glider x 2 atleast	-	Sugar glider	D	Fair	Fair
I32	Possum	10/2/21	-	Decomposed material	Old leaf	D	Fair	Fair
I4	Medium Parrot	10/2/21	-	Antechinus den, prob ind inside	Antechinus spp.	D	Fair	Fair
I5	Possum	10/2/21	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
I6	Large glider	10/2/21	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
I7	Black Cockatoo		-	-		D	Down tree cut	Fair
I8	Medium Parrot	10/2/21	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
I9	Microbat		-	-		D	Down tree cut	Fair
J1	Medium Parrot	10/2/21	2 x Rainbow lorikeets	-	Bird spp.	D	Fair	Fair
J10	Microbat	10/2/21	4 x Sugar glider	-	Sugar glider	D	Fair	Fair
J11	Possum	10/2/21	CBTP x 1	-	Trichosurus spp.	D	No lid	Fair
J12	Small glider	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
J13	Small glider	10/2/1	-	Lorikeet feathers	Lorikeet spp.	D	Fair	Fair
J14	Small glider	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
J15	Small Owl	10/2/21	CBtP x 2	-	Trichosurus spp.	Probably	Fair	Fair
J16	Large glider	10/2/21	-	-		D	Bottom about to fall out	Fair
J17	Medium Parrot	10/2/21	-	-		D	On ground	Fair
J18	Possum	10/2/21	-	-		D	Water pooled	Fair
J19	Scansorial mammal	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
J2	Possum	10/2/21	3 x Short-eared brushtail possum	-	Trichosurus spp.	D	Lid on ground	Fair
J20	Large glider	10/2/21	CBTP x 1	-	Trichosurus spp.	D	Fair	Fair
J21	Small glider	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
J22	Black Cockatoo	10/2/21	Short-eared brushtail possum x 1	-	Trichosurus spp.	D	Fair	Fair
J23	Small Glider	10/2/21	-	SuG nest	Sugar glider	D	Fair	Fair
J24	Possum	10/02/21	-	Old BtP nest	Trichosurus spp.	D	Fair	Fair
J25	Scansorial mammal	10/2/21	-	Old ant nest	Invertebrate	D	Fair	Fair
J26	Medium Parrot	10/2/2	-	Old decomposed material	Old leaf	D	Fair	Fair
J27	Microbat	10/2/21	-	-		D	Fair	Fair
J28	Small glider	10/2/21	Native beehive	-	Invertebrate	Pr	Fair	Fair
J29	Medium Parrot	10/2/21	-	Broken down material	Old leaf	D	Fair	Fair
J3	Scansorial mammal	10/2/21	Native beehive	-	Invertebrate	Pr	Fair	Fair
J30	Small Glider	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
J4	Small glider	10/2/21	2 x Sugar glider	-	Sugar glider	D	Fair	Fair
J5	Small Owl	10/2/21	-	Euro beehive	Invertebrate	D	Fair	Fair
J6	Large glider	10/2/21	-	BtPoss nest	Trichosurus spp.	Pr	Lid off with hole	Fair
J7	Microbat	10/2/21	-	-		D	Fair	Fair
J8	Scansorial mammal	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
J9	Possum	10/2/21	-	Fresh BtPoss nest	Trichosurus spp.	D	Fair	Fair
K1	Possum	9/2/21	-	Ant material, no ants	Invertebrate	D	Fair	Fair
K10	Large glider	9/2/21	Euro beehive	Old small pet nest	Invertebrate	D	Fair	Fair
K11	Possum	9/2/21	Ants	Old flat leaves, pr BtPoss	Invertebrate	D	Fair	Fair
K12	Microbat	9/2/21	-	-		D	Fair	Fair
K13	Scansorial mammal	9/2/21	-	antechinus nest, pr latrine, messy leaves	Antechinus spp.	Pr	Fair	Fair
K14	Medium Parrot	9/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
K15	Small glider	9/2/21	Active Native beehive	-	Invertebrate	D	Fair	Fair
K16	Possum	9/2/21	Ants nest	-	Invertebrate	D	Fair	Fair
K17	Large glider	9/2/21	-	Messy leaves, pr latrine, pr antechinus nest	Antechinus spp.	D	lifting tab off	Fair
K18	Microbat	9/2/20	-	Pr antechinus nest, few leaves and sticks	Antechinus spp.	D	Fair	Fair
K19	Small Owl	9/2/21	-	Scattered leaf, pr BtPoss spp	Trichosurus spp.	D	Hinge broken	Fair
K2	Microbat	9/2/21	-	-		D	Fair	Fair
K20	Small glider	9/2/21	Active ants	Small pet nest	Invertebrate	D	Fair	Fair
K21	Medium Parrot	9/2/21	Active ants nest	-	Invertebrate	D	Fair	Fair
K22	Possum	9/2/21	CBTP x 1	-	Trichosurus spp.	D	Fair	Fair
K23	Scansorial mammal	9/2/21	Sugar glider x 2	-	Sugar glider	D	Fair	Fair
K24	Large forest owl	12/2/21	-	Leaf nest present	Sugar glider	Probable	Fair	Fair
K25	Microbat	9/2/21	-	Old FtG nest	Acrobates spp.	D	Fair	Fair
K26	Possum	9/2/21	CBTP x 1	-	Trichosurus spp.	D	Fair	Fair
K27	Small Owl	9/2/21	Active euro beehive	-	Invertebrate	D	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
K28	Large glider	9/2/21	-	Old euro beehive	Invertebrate	D	Fair	Fair
K29	Scansorial mammal	9/2/21	-	-		D	Fair	Fair
K3	Small glider	9/2/21	Native beehive	-	Invertebrate	D	Box fallen down	Fair
K30	Small glider	9/2/21	-	Old small pet nest	Sugar glider	D	Fair	Fair
K31	Medium Parrot	9/2/21	Ants	Small fresh pet nest	Invertebrate	D	Fair	Fair
K32	Possum	9/2/21	-	Fresh BtPoss den, few scattered leaves	Trichosurus spp.	D	Fair	Fair
K33	Scansorial mammal	9/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
K34	Small glider	9/2/21	Sugar glider x 4	-	Sugar glider	D	Fair	Fair
K35	Microbat	9/2/21	-	-		D	Fair	Fair
K36	Possum	9/2/21	CBtP x 1	-	Trichosurus spp.	D	Box fallen down, need new one	Fair
K37	Medium Parrot	9/2/21	Ants	Old antechinus nest	Invertebrate	D	Fair	Fair
K38	Scansorial mammal	9/2/21	-	Old small pet nest	Sugar glider	D	Water pooled	Fair
K39	Medium Parrot	9/2/21	-	Old sug nest	Sugar glider	D	Fair	Fair
K4	Large glider	9/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
K40	Microbat	9/2	-	-		D	Fair	Fair
K41	Black Cockatoo	9/2/21	Short-eared brushtail possum x 1	-	Trichosurus spp.	Pr	Fair	Fair
K42	Possum	9/2/21	Ants	Pr old BtPoss nest	Invertebrate	D	Fair	Fair
K43	Large glider	9/2/21	-	Very Decomposed material	Old leaf	D	Fair	Fair
K44	Large glider	9/2/21	-	Old pet nest	Sugar glider	D	Fair	Fair
K45	Scansorial mammal	9/2/21	-	Antechinus nest	Antechinus spp.	Pr	Fair	Fair
K46	Possum	9/2/21	-	Btp nest	Trichosurus spp.	D	Fair	Fair
K47	Small glider	9/2/21	-	Prob old antechinus nest	Antechinus spp.	D	Fair	Fair
K48	Small glider	9/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
K49	Possum	9/2/21	-	Old BtPoss den	Trichosurus spp.	D	Fair	Fair
K5	Medium Parrot	9/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
K50	Large glider	9/2/21	Active euro beehive	-	Invertebrate	D	Fair	Fair
K51	Scansorial mammal	9/2/21	-	Old small pet nest	Sugar glider	D	Fair	Fair
K52	Possum	9/2/21	-	Decomposing leaves	Old leaf	D	Fair	Fair
K53	Medium Parrot	9/2/21	-	Decomposing leaves	Old leaf	D	Fair	Fair
K54	Microbat	9/2/21	Ants	Old FtG nest	Invertebrate	D	Fair	Fair
K55	Small glider	9/2/21	-	small pet nest	Sugar glider	D	Fair	10/2/21
K56	Medium Parrot	9/2/21	-	-		D	Fair	Fair
K57	Large glider	9/2/21	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K58	Possum	9/2/21	-	-		D	Water pooled	Fair
K59	Microbat	9/2/21	-	FtG nest	Acrobates spp.	Pr	Fair	Fair
K6	Scansorial mammal	9/2/21	-	-		D	On ground	Fair
K60	Black Cockatoo	9/2/21	-	Scattered leaves, pr BtPoss	Trichosurus spp.	D	Fair	Fair
K61	Small glider	9/2/21	Min 2 x Sugar glider	-	Sugar Glider	D	Fair	Fair
K62	Scansorial mammal	9/2/21	Native beehive	-	Invertebrate	Pr	One hinge broken	Fair
K63	Possum	9/2/21	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K64	Medium Parrot	9/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
K65	Possum	9/2/21	-	Fresh BtPoss nest	Trichosurus spp.	D	Fair	Fair
K66	Black Cockatoo	9/2/21	-	Fresh BtPoss nest, scattered leaf	Trichosurus spp.	D	Fair	Fair
K67	Large glider	9/2/21	Active ant nest	Old pet nest	Invertebrate	D	Fair	Fair
K7	Large glider	9/2/21	-	Old euro beehive	Invertebrate	D	Lid hanging	Fair
K8	Possum	9/2/21	CBtP x 1	-	Trichosurus spp.	D	One hinge broken-future	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
							repairing	
K9	Possum	9/2/21	-	-		D	Fair	Fair
L1	Medium parrot	8/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
L2	Small glider	8/2/21	-	Old ant material	Invertebrate	D	Fair	Fair
L3	Scansorial mammal	8/2/21	Sugar glider x 2	-	Sugar glider	D	Fair	Fair
L4	Possum	8/2/21	Active ants (no termites)	V small no. Leaves	Invertebrate	D	Fair	Fair
L5	Microbat	8/2/21	-	-		D	Fair	Fair
L6	Scansorial mammal	8/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
L7	Medium parrot	8/2/21	-	Small pet nest, euro beehive not active	Sugar glider	D	Fair	Fair
L8	Large glider	8/2/21	-	Old pet nest, ant material but no ants active	Sugar glider	D	Fair	Fair
M1	Possum	2/8/21	-	Old leaf, BtPoss	Trichosurus spp.	D	Fair	Fair
M10	Medium Parrot	8/2/21	Active euro beehive	-	Invertebrate	D	Fair	Fair
M11	Possum	8/2/21	-	Old BtPoss den	Trichosurus spp.	D	Fair	Fair
M12	Small glider	8/2/21	Ants (no termites)	-	Invertebrate	D	Fair	Fair
M13	Possum	8/2/21	-	Ant material	Invertebrate	D	Fair	Fair
M14	Scansorial mammal	8/2/21	-	Old leaf nest	Old leaf	D	Fair	Fair
M15	Black Cockatoo	8/2/21	-	Old leaf	Old leaf	D	Fair	Fair
M16	Large glider	8/2/21	-	Old pet nest	Sugar glider	D	No lid	Fair
M17	Medium parrot	8/2/21	-	Ant material	Invertebrate	D	Fair	Fair
M18	Scansorial mammal	8/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
M19	Possum	8/2/21	-	Fresh small pet	Sugar glider	D	Fair	Fair
M2	Microbat	8/2/21	-	-		D	Fair	Fair
M20	Large glider	8/2/21	-	Pet nest	Sugar glider	D	Lid loose, need new hinge x 1	Fair
M21	Small glider	9/2/21	Ants (no termites)	-	Invertebrate	D	Fair	Fair
M22	Microbat	9/2/21	-	-		D	Fair	Fair
M23	Scansorial mammal	9/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
M24	Black Cockatoo	9/2/21	-	Old scattered leaves, pr BtPoss	Trichosurus spp.	D	Fair	Fair
M25	Large Glider	9/2/21	-	Pet nest, old euro beehive	Sugar glider	D	Fair	Fair
M3	Scansorial mammal		-	Antechinus den	Antechinus spp.	D	Fair	Fair
M4	Small glider	2/8/21	-	-		D	Fair	Fair
M5	Microbat	8/2/21	-	-		D	No lid, 8m in air, needs new lid	Fair
M6	Small owl	8/2/21	-	Old ant material, old euro beehive material	Invertebrate	D	Fair	Fair
M7	Scansorial mammal	8/2/21	Ants nest	Old leaf nest	Invertebrate	D	Fair	Fair
M8	Microbat	8/2/21	-	-		D	Lid on ground	Fair
M9	Large glider	8/2/21	-	Old euro beehive	Invertebrate	D	Fair	Fair
N1	Large glider	10/2/21	-	Old euro beehive	Invertebrate	D	Fair	Fair
N2	Possum	10/2/21	-	Btposs nest	Trichosurus spp.	D	Fair	Fair
N3	Scansorial mammal	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
N4	Scansorial mammal	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
N5	Large glider	10/2/21	Lace monitor	Pet nest	Lace monitor	D	Fair	Fair
N6	Small glider	10/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
N7	Small glider	10/2/21	-	Old pet nest and old euro beehive	Sugar glider	D	Fair	Fair
N8	Small glider	10/2/21	Active native beehive	-	Invertebrate	Pr	Fair	Fair
O1	Large glider	9/2/21	-	Decomposed leaf	Old leaf	D	Fair	Fair
O10	Possum	9/2/21	-	BtPos spp, scattered leaves	Trichosurus spp.	D	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
O11	Microbat	11/2/21	-	MB scat and scratches	Microbat spp.	D	Fair	Fair
O12	Possum	11/2/21	Lace monitor	-	Lace monitor	D	Fair	Fair
O13	Scansorial mammal	11/2/21	-	FtG nest	Acrobates spp.	Pr	Fair	Fair
O14	Microbat	11/2/21	-	Microbat Scat	Microbat spp.	D	Fix one hinge	Fair
O15	Large forest owl	12/2/21	-	-		D	Fair	Fair
O16	Possum	12/2/21	-	-		D	Fair	Fair
O17	Small glider	11/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
O18	Small glider	10/2/21	-	Euro beehive	Invertebrate	D	Fair	Fair
O2	Scansorial mammal	9/2/21	-	Old small pet nest	Sugar glider	D	Fair	Fair
O3	Small glider	9/2/21	Sugar glider x 5	-	Sugar glider	D	Fair	Fair
O4	Large glider	10/2/21	-	-		D	Box fallen down, need new one	Fair
O5	Scansorial mammal	10/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
O6	Small glider	10/2/21	-	FtG nest	Acrobates spp.	Pr	Fair	Fair
O7	Small owl	9/2/21	-	Decomposed material	Old leaf	D	Fair	Fair
O8	Medium Parrot	9/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
O9	Scansorial mammal	9/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
P1	Microbat	11/2/21	-	-		D	Fair	Fair
P2	Small glider	11/2/21	Ants (no termites)	-	Invertebrate	D	Fair	Fair
P3	Scansorial mammal	11/2/21	Ants (no termites)	-	Invertebrate	Pr	Fair	Fair
P4	Large glider	11/2/21	-	Flattened Small pet nest, pr btposs use	Trichosurus spp.	Pr	Need new lid and hinges	Fair
P5	Medium Parrot	11/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
Q1	Possum	11/2/21	-	-		D	Fair	Fair
Q10	Large glider	11/2/21	-	Old small pet nest	Sugar glider	D	One hinge broken-future repairing	Fair
Q11	Possum	11/2/21	-	Decomposing old BtPoss nest	Old leaf	D	Fair	Fair
Q12	Small glider	11/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
Q13	Medium Parrot	11/2/21	Lace monitor	-	Lace monitor	D	Fair	Fair
Q14	Large glider	11/2/21	-	Old leaf nest	Old leaf	D	Fair	Fair
Q15	Microbat	11/2/21	-	Scat on ground, scratches	Microbat spp.	D	Fair	Fair
Q16	Small owl	11/2/21	-	-		D	Fair	Fair
Q17	Small glider	11/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
Q18	Medium Parrot	11/2/21	-	Old euro beehive	Invertebrate	D	Fair	Fair
Q19	Large forest owl	12/2/21	-	Residual AWD nest	Australian Wooduck	Pr	Fair	Fair
Q2	Scansorial mammal	11/2/21	-	Small pet nest	Sugar glider	D	Fair	Fair
Q20	Possum	12/2/21	-	-		D	Fair	Fair
Q3	Medium Parrot	11/2/21	-	Decomposing leaf nest	Old leaf	D	Fair	Fair
Q4	Small Owl	11/2/21	-	Pr btposs nest, old euro beehive	Trichosurus spp.	D	Fair	Fair
Q5	Small glider	2/11/21	2 x Sugar glider	-	Sugar glider	D	Fair	Fair
Q6	Scansorial mammal	11/2/21	Native beehive	-	Invertebrate	D	Fair	Fair
Q7	Large glider	11/2/21	-	Old euro beehive	Invertebrate	Pr	Fair	Fair
Q8	Possum	11/2/21	-	Scattered leaves, BtPoss spp	Trichosurus spp.	D	Fair	Fair
Q9	Medium parrot	11/2/21	-	Old leaf nest decomposing	Sugar glider	D	Fair	Fair
R1	Large glider	2/11/21	-	-		D	Fair	Fair
R10	Small glider	11/2/21	-	Small pet nest	Sugar glider	Pr	Fair	Fair
R11	Large forest owl	12/2/21	-	AWD nest	Bird spp.	D	Fair	Fair
R2	Scansorial mammal	2/11/21	-	Small pet nest	Sugar glider	D	Fair	Fair
R3	Microbat	11/2/21	-	Scat, scratches and stained	Antechinus spp.	D	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
R4	Possum	11/2/21	-	BtPoss nest	Trichosurus spp.	D	Fair	Fair
R5	Large glider	11/2/21	-	Btposs den	Trichosurus spp.	D	Fair	Fair
R6	Scansorial mammal	11/2/21	-	Small pet nest	Sugar glider	Pr	Fair	Fair
R7	Large glider	11/2/21	-	Antechinus nest w latrine	Antechinus spp.	D	Fair	Fair
R8	Possum	11/2/21	-	Scattered leaves, BtPoss spp	Trichosurus spp.	D	Fair	Fair
R9	Medium parrot	11/2/21	-	Scattered leaves and bark, btposs spp	Trichosurus spp.	D	Fair	Fair
R11	Large forest owl	17/7/20	-	AWD nest (woodchips/bark nest)	Australian Wooduck	Pr	Fair	Fair
O15	Large forest owl	17/7/20	-	-		D	Fair	Fair
O16	Possum	29/7/20	-	-		D	Fair	Fair
Q19	Large forest owl	17/7/20	-	Residual AWD nest	Acrobates spp.	Pr	Fair	Fair
Q20	Possum	29/7/20	-	-		D	Fair	Fair
K24	Large forest owl	29/7/20	Owlet night jar	Nest and eggs present	Owlet nightjar	Probable	Fair	Fair
H1	Large glider	29/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
I1	Microbat	29/7/20	-	-		D	Fair	Fair
J1	Medium Parrot	17/7/20	Lorikeet feathers	-	Lorikeet spp.	D	Fair	Fair
K1	Possum	17/7/20	-	Old BtPoss den	Trichosurus spp.	D	Fair	Fair
L1	Medium parrot	17/7/20	-	Old small pet/FtG	Acrobates spp.	Pr	Fair	Fair
M1	Possum	17/7/20	-	Old leaf, BtPoss	Trichosurus spp.	Pr	Fair	Fair
N1	Large glider	17/7/20	Euro beehive	-	Invertebrate	D	Fair	Fair
O1	Large glider	17/7/20	-	Old small pet	Sugar glider	D	Fair	Fair
P1	Microbat	17/7/20	-	-		D	Fair	Fair
Q1	Possum	17/7/20	-	-		D	Fair	Fair
R1	Large glider	17/7/20	-	-		D	Fair	Fair
H2	Medium Parrot	29/7/20	-	Bird spp	Bird spp.	D	Fair	Fair
I2	Possum	17/7/20	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
J2	Possum	17/7/20	SEBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K2	Microbat	17/7/20	-	-		D	Fair	Fair
L2	Small glider	17/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
M2	Microbat	17/7/20	-	-		D	Fair	Fair
N2	Possum	17/7/20	Lace monitor	-	Lace monitor	D	Fair	Fair
O2	Scansorial mammal	17/7/20	-	Old small pet	Sugar glider	D	Fair	Fair
P2	Small glider	17/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
Q2	Scansorial mammal	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
R2	Scansorial mammal	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
H3	Scansorial mammal	17/7/20	-	Fresh FtG nest	Acrobates spp.	D	Fair	Fair
I3	Small glider	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
J3	Scansorial mammal	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
K3	Small glider	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
L3	Scansorial mammal	17/7/20	-	FtG nest	Acrobates spp.	Pr	Fair	Fair
M3	Scansorial mammal	17/7/20	-	Old FtG/Small pet nest	Acrobates spp.	D	Fair	Fair
N3	Scansorial mammal	17/7/20	SuG x 2	-	Sugar glider	Pr	Fair	Fair
O3	Small glider	17/7/20	Sug x 1 atleast	-	Sugar glider	D	Fair	Fair
P3	Scansorial mammal	17/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
Q3	Medium Parrot	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
R3	Microbat	17/7/20	-	-		D	Fair	Fair
I4	Medium Parrot	17/7/20	-	Old Antechinus den	Antechinus spp.	D	Fair	Fair
J4	Small glider	17/7/20	-	SuG nest	Sugar glider	Pr	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
K4	Large glider	17/7/20	-	Fresh Small pet nest	Sugar glider	D	Fair	Fair
L4	Possum	17/7/20	Btp spp.	V small no. Leaves	Trichosurus spp.	D	Fair	Fair
M4	Small glider	17/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
N4	Scansorial mammal	17/7/20	SuG x 1 atleast	-	Sugar glider	Pr	Fair	Fair
O4	Large glider	17/7/20	-	-		D	Box fallen down, need new one	Fair
P4	Large glider	17/7/20	SEBtP x 1	-	Trichosurus spp.	Pr	One hinge broken	Fair
Q4	Small Owl	17/7/20	-	Old leaf nest, old euro beehive	Invertebrate	D	Fair	Fair
R4	Possum	17/7/20	-	Old BtPoss nest	Trichosurus spp.	D	Fair	Fair
I5	Possum	17/7/20	-	Old BtPoss den	Trichosurus spp.	D	Fair	Fair
J5	Small Owl	17/7/20	SEBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K5	Medium Parrot	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
L5	Microbat	17/7/20	-	-		D	Fair	Fair
M5	Microbat	17/7/20	-	-		D	No lid	Fair
N5	Large glider	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
O5	Scansorial mammal	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
P5	Medium Parrot	17/7/20	SuG x 1 atleast	-	Sugar glider	D	Fair	Fair
Q5	Small glider	17/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
R5	Large glider	17/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
I6	Large glider	17/7/20	-	Decomposed leaf	Old leaf	D	Fair	Fair
J6	Large glider	17/7/20	CBtP x 1	-	Trichosurus spp.	D	Hinge broken-need future repairing	Fair
K6	Scansorial mammal	17/7/20	SuG x 1	-	Sugar glider	D	Fair	Fair
L6	Scansorial mammal	17/7/20	SuG	-	Sugar glider	Pr	Fair	Fair
M6	Small owl	17/7/20	-	Ant material, old leaf	Invertebrate	D	Fair	Fair
N6	Small glider	17/7/20	SuG x 1 atleast	-	Sugar glider	D	Fair	Fair
O6	Small glider	17/7/20	FtG x 1 atleast	-	Acrobates spp.	Pr	Fair	Fair
Q6	Scansorial mammal	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
R6	Scansorial mammal	17/7/20	SuG x 1 atleast	-	Sugar glider	Pr	Fair	Fair
I7	Black Cockatoo	17/7/20	-	-		D	Down tree cut	Fair
J7	Microbat	17/7/20	-	-		D	Fair	Fair
K7	Large glider	17/7/20	-	Old CRTp	Common Ringtail possum	Pr	Fair	Fair
L7	Medium parrot	17/7/20	SuG x 2 atleast	-	Sugar glider	D	Fair	Fair
M7	Scansorial mammal	17/7/20	-	Fresh FtG nest	Acrobates spp.	Probably	Fair	Fair
N7	Small glider	17/7/20	Lace monitor	-	Lace monitor	D	Fair	Fair
O7	Small owl	17/7/20	Lace monitor	-	Lace monitor	D	Fair	Fair
Q7	Large glider	17/7/20	Euro beehive	-	Invertebrate	Pr	Fair	Fair
R7	Large glider	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
I8	Medium Parrot	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
J8	Scansorial mammal	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
K8	Possum	17/7/20	-	Old leaf, Nighjar	Owlet nightjar	Pr	Fair	Fair
L8	Large glider	17/7/20	-	Old leaf nest, broken down bark	Old leaf	D	Fair	Fair
M8	Microbat	17/7/20	-	-		D	Lid on ground	Fair
N8	Small glider	17/7/20	Active native beehive	-	Invertebrate	D	Fair	Fair
O8	Medium Parrot	17/7/20	Green tree snake	Old pet nest	Green tree snake	D	Fair	Fair
Q8	Possum	17/7/20	-	Old leaf material	Old leaf	D	Fair	Fair
R8	Possum	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
I9	Microbat	17/7/20	-	-		D	Down tree cut	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
J9	Possum	17/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K9	Possum	17/7/20	-	-		D	Fair	Fair
M9	Large glider	17/7/20	-	Old euro beehive	Invertebrate	D	Fair	Fair
O9	Scansorial mammal	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
Q9	Medium parrot	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
R9	Medium parrot	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
I10	Possum	17/7/20	-	Old leaf, BtPoss	Trichosurus spp.	Pr	Fair	Fair
J10	Microbat	17/7/20	-	FtG nest	Acrobates spp.	Pr	Fair	Fair
K10	Large glider	17/7/20	-	Old small pet nest	Sugar glider	D	Fair	Fair
M10	Medium Parrot	17/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
O10	Possum	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
Q10	Large glider	17/7/20	-	Old leaf nest	Old leaf	D	One hinge broken-future repairing	Fair
R10	Small glider	17/7/20	SuG x 2	-	Sugar glider	Pr	Fair	Fair
I11	Scansorial mammal	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
J11	Possum	17/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K11	Possum	17/7/20	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
M11	Possum	17/7/20	-	Old BtPoss den	Trichosurus spp.	D	Fair	Fair
O11	Microbat	17/7/20	-	-		D	Fair	Fair
Q11	Possum	17/7/20	Lace monitor	-	Lace monitor	D	Fair	Fair
I12	Small glider	17/7/20	-	-		D	Down tree cut	Fair
J12	Small glider	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
K12	Microbat	17/7/20	-	-		D	Fair	Fair
M12	Small glider	17/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
O12	Possum	17/7/20	SEBtP x 2	Old euro beehive	Trichosurus spp.	D	Fair	Fair
Q12	Small glider	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
I13	Possum	17/7/20	-	-		D	Fair	Fair
J13	Small glider	17/7/20	SuG atleast one	-	Sugar glider	D	Fair	Fair
K13	Scansorial mammal	17/7/20	-	Fresh leaf nest flat check	Sugar glider	D	Fair	Fair
M13	Possum	17/7/20	-	Old euro beehive	Invertebrate	D	Fair	Fair
O13	Scansorial mammal	17/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
Q13	Medium Parrot	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
I14	Medium Parrot	17/7/20	SuG x 1 atleast	-	Sugar glider	D	Fair	Fair
J14	Small glider	17/7/20	-	Old SuG nest	Sugar glider	D	Fair	Fair
K14	Medium Parrot	17/7/20	SuG x 3 atleast	-	Sugar glider	D	Fair	Fair
M14	Scansorial mammal	17/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
O14	Microbat	17/7/20	-	-		D	Fair	Fair
Q14	Large glider	17/7/20	-	-		D	Fair	Fair
I15	Scansorial mammal	17/7/20	-	Small pet/FtG nest	Sugar glider	D	Fair	Fair
J15	Small Owl	17/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K15	Small glider	17/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
M15	Black Cockatoo	17/7/20	-	Old leaf	Old leaf	D	Fair	Fair
Q15	Microbat	17/7/20	-	-		D	Fair	Fair
I16	Microbat	17/7/20	-	-		D	Fair	Fair
J16	Large glider	17/7/20	-	Old euro beehive	Invertebrate	D	Fair	Fair
K16	Possum	17/7/20	Lace monitor	D	Lace monitor	D	Fair	Fair
M16	Large glider	17/7/20	-	Old pet nest	Sugar glider	D	Fair	Fair
Q16	Small owl	17/7/20	Lace monitor	-	Lace monitor	D	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
I17	Medium Parrot	17/7/20	-	Old leaf	Old leaf	D	Fair	Fair
J17	Medium Parrot	17/7/20	Rainbow lorikeet x 1 maybe more	-	Rainbow lorikeet	D	Fair	Fair
K17	Large glider	17/7/20	-	Antechinus nest	Antechinus spp.	Pr	Fair	Fair
M17	Medium parrot	17/7/20	-	Fresh smal pet nest	Sugar glider	D	Fair	Fair
O17	Small glider	17/7/20	Native beehive	-	Invertebrate	D	Box fallen down	Fair
Q17	Small glider	17/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
I18	Small glider	17/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
J18	Possum	17/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K18	Microbat	17/7/20	-	-		D	Fair	Fair
M18	Scansorial mammal	18/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
O18	Small glider	18/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
Q18	Medium Parrot	18/7/20	-	Old euro beehive	Invertebrate	D	Fair	Fair
I19	Possum	18/7/20	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
J19	Scansorial mammal	18/7/20	SuG x 2	-	Sugar glider	D	Fair	Fair
K19	Small Owl	18/7/20	-	Decomposed leaf	Old leaf	D	Fair	Fair
M19	Possum	18/7/20	-	Fresh Small pet nest	Sugar glider	D	Fair	Fair
I20	Small glider	18/7/20	SuG x 2 atleast	-	Sugar glider	D	Fair	Fair
J20	Large glider	18/7/20	-	Old BtPoss nest	Trichosurus spp.	Pr	Fair	Fair
K20	Small glider	18/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
M20	Large glider	18/7/20	-	Fresh pet nest	Sugar glider	D	Fair	Fair
I21	Black Cockatoo	18/7/20	BtPoss check sp.	-	Trichosurus spp.	D	Fair	Fair
J21	Small glider	18/7/20	Native beehive	-	Invertebrate	D	Wire breaking - future repair	Poor
K21	Medium Parrot	18/7/20	-	Old leaf nest, old ant nest	Invertebrate	D	Fair	Fair
M21	Small glider	18/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
I22	Large glider	18/7/20	Active euro beehive	-	Invertebrate	D	Fair	Fair
J22	Black Cockatoo	18/7/20	SEBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K22	Possum	18/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
M22	Microbat	18/7/20	-	-		D	Fair	Fair
I23	Scansorial mammal	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
J23	Small Glider	18/7/20	-	SuG nest	Sugar glider	D	Fair	Fair
K23	Scansorial mammal	18/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
M23	Scansorial mammal	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
I24	Small glider	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
J24	Possum	18/7/20	CBtP x 2	-	Trichosurus spp.	D	Fair	Fair
M24	Black Cockatoo	18/7/20	-	Fresh leaf nest	Sugar glider	D	Fair	Fair
I25	Large glider	18/7/20	-	-		D	Down tree cut	Fair
J25	Scansorial mammal	18/7/20	Ants (no termites)	-	Invertebrate	D	Fair	Fair
K25	Microbat	18/7/20	-	Old FtG nest	Acrobates spp.	D	Fair	Fair
M25	Large Glider	18/7/20	SuG x 1 atleast	-	Sugar glider	D	Fair	Fair
I26	Scansorial mammal	18/7/20	Native beehive	-	Invertebrate	D	Down tree cut	Fair
J26	Medium Parrot	18/7/20	-	Lorikeet feathers	Lorikeet spp.	D	Fair	Fair
K26	Possum	18/7/20	-	Fresh BtPoss nest	Trichosurus spp.	D	Fair	Fair
I27	Possum	18/7/20	-	BtPoss den	Trichosurus spp.	D	Fair	Fair
J27	Microbat	18/7/20	-	-		D	Fair	Fair
K27	Small Owl	18/7/20	-	Fresh BtPoss nest	Trichosurus spp.	D	Fair	Fair
I28	Microbat	18/7/20	-	Fresh FtG den	Acrobates spp.	D	Fair	Fair
J28	Small glider	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair

Box ID	Box types	Date	Fauna present	Fauna signs	Species	Probability	Box condition	Wire condition
K28	Large glider	18/7/20	-	-		D	Large branch on top	Fair
I29	Scansorial mammal	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
J29	Medium Parrot	18/7/20	Frog spp check	Broken down material	Frog spp.	D	Fair	Fair
K29	Scansorial mammal	18/7/20	-	-		D	Fair	Fair
I30	Possum	18/7/20	-	Old Btposs	Trichosurus spp.	D	Fair	Fair
J30	Small Glider	18/7/20	SuG nest	-	Sugar glider	D	Fair	Fair
K30	Small glider	18/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
I31	Small glider	18/7/20	SuG x 3	-	Sugar glider	D	Fair	Fair
K31	Medium Parrot	18/7/20	-	Small pet nest	Sugar glider	D	Fair	Fair
I32	Possum	18/7/20	-	Old leaf, ant material	Invertebrate	D	Fair	Fair
K32	Possum	18/7/20	-	Fresh BtPossden	Trichosurus spp.	D	Fair	Fair
K33	Scansorial mammal	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
K34	Small glider	18/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
K35	Microbat	18/7/20	-	-		D	Fair	Fair
K36	Possum	18/7/20	CBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K37	Medium Parrot	18/7/20	-	Old antechinus nest	Antechinus spp.	Pr	Fair	Fair
K38	Scansorial mammal	18/7/20	SuG x 1	-	Sugar glider	Pr	Fair	Fair
K39	Medium Parrot	18/7/20	-	Old SuG nest, old euro beehive	Sugar glider	D	Fair	Fair
K40	Microbat	18/7/20	-	Old leaf nest small amount	Old leaf	D	Fair	Fair
K41	Black Cockatoo	18/7/20	SEBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K42	Possum	18/7/20	SEBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K43	Large glider	18/7/20	-	Very old leaf	Old leaf	D	Fair	Fair
K44	Large glider	18/7/20	-	Old pet nest	Sugar glider	D	Fair	Fair
K45	Scansorial mammal	18/7/20	-	Old Antechinus nest	Antechinus spp.	Pr	Fair	Fair
K46	Possum	18/7/20	SEBtP x 1	-	Trichosurus spp.	D	Fair	Fair
K47	Small glider	18/7/20	-	Fresh Leaf nest check	Sugar glider	D	Fair	Fair
K48	Small glider	18/7/20	Native beehive active	-	Invertebrate	D	Fair	Fair
K49	Possum	18/7/20	-	Old BtPoss den	Trichosurus spp.	D	Fair	Fair
K50	Large glider	18/7/20	-	Old euro beehive, ant nest, old leaf	Invertebrate	D	Fair	Fair
K51	Scansorial mammal	18/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
K52	Possum	18/7/20	-	-		D	Fair	Fair
K53	Medium Parrot	18/7/20	Native beehive	-	Invertebrate	D	Fair	Fair
K54	Microbat	18/7/20	-	Old FtG nest	Acrobates spp.	Pr	Fair	Fair
K55	Small glider	18/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
K56	Medium Parrot	18/7/20	-	Old leaf nest	Old leaf	D	Fair	Fair
K57	Large glider	18/7/20	-	SuG nest	Sugar glider	D	Fair	Fair
K58	Possum	18/7/20	-	Fresh BtPoss spp	Trichosurus spp.	D	Fair	Fair
K59	Microbat	18/7/20	-	Fresh SuG nest	Sugar glider	Pr	Fair	Fair
K60	Black Cockatoo	18/7/20	-	-		D	Water pooled at bottom	Fair
K61	Small glider	18/7/20	-	Fresh SuG nest	Sugar glider	D	Fair	Fair
K62	Scansorial mammal	18/7/20	Native beehive	-	Invertebrate	Pr	Fair	Fair
K63	Possum	18/7/20	-	Old small pet nest	Sugar glider	D	Fair	Fair
K64	Medium Parrot	18/7/20	-	Fresh small pet nest	Sugar glider	D	Fair	Fair
K65	Possum	18/7/20	-	Fresh BtPoss nest	Trichosurus spp.	D	Fair	Fair
K66	Black Cockatoo	18/7/20	CBtP x 1 check not SE	-	Trichosurus spp.	D	Fair	Fair
K67	Large glider	17/1/19	-	Old leaf	Old leaf	D	Fair	Fair