2021 Nest Box Audit

Coolum and North Shore Coast Care

Figure 1: Nest Box 16 Maroochy River CP

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All photographs in this report were taken during the inspections on 26 May 2021

1.0 Introduction

This report outlines the 2021 audit findings of the nest box program for Coolum and North Shore Coast Care (CNSCC). Currently CNSCC have nest boxes installed at five locations from Stumers to Mudjimba, with the goal to identify and research wildlife habitats and contribute to the ongoing management of native wildlife in this coastal area.

This is a follow-up audit for fauna monitoring/box inspection from the October 2017 audit that was completed by Hollow Log Homes.

The nest box audit was undertaken by Hollow Log Homes in May 2021. An accompanying excel spreadsheet of data (Appendix A) was also prepared.

44 nest boxes attached to native trees were inspected to ensure they remain in good working condition, remain securely in place, are free of unwanted pest species, and to note the species' usage of each nest box across the five sites and 44 nest boxes.

The following process was used at audit:

- Checking each pole and box for signs of current or past use by wildlife (5 sites, 44 nest boxes)
- Photograph and/or video record fauna observations
- Note any major box repairs or replacements required
- Note any possible changes to box type based on observations and use
- Providing a report on the audit

The monitoring report revealed that a total of 44 nest boxes were inspected, with 25 appearing in good condition. 12 nest boxes were destroyed and the remainder need repairing or replacing urgently, some of which has been completed since the audit.

There was evidence of pest species, particularly feral European Bees - having occupied three nest boxes across three sites. Feral pest species should be deterred wherever possible. Several nest boxes had evidence of native insect and spider activity, which is not problematic and should be allowed to continue to occur. Further results of the nest box monitoring are outlined in this report and in the data in Appendix A.

2.0 Site Details

The coastal areas of the Sunshine Coast incorporating the ocean, tidal rivers, dunes and inland native vegetation are situated in amongst a sprawling and ever-increasing urbanised landscape –which can easily upset the natural balance of nature and wildlife.

The remaining wild places within this urbanisation are home to a large variety of native wildlife, with over 700 native animals being recorded on the Sunshine Coast, including birds, bats, butterflies, marsupials, reptiles and insects on our land, and fish, turtles, whales and dolphins in our adjacent waterways[1].

CNSCC have seven sites with artificial hollows installed to provide a safe place for local wildlife. The following five sites were audited, and all have a variety of nest boxes installed to ensure maximum use by a variety of native species, see 4.1-4.5.

1. Yaroomba Bushland Park
2. Coolum – Yandina Road
3. Springfield Avenue
4. Cassia Wildlife Corridor
5. Maroochy River Conservation Park

The two sites at Yinneburra and Point Arkwright were not audited, but have since had maintenance and replacement work performed, see 4.6, 4.7.

3.0 Auditing Methods

The nest box condition monitoring was carried out by Wes Mannion and Anthony Wentworth (Hollow Log Homes) who have been trained in ecological surveying techniques. The weather for the audit[2] was fine with temperatures between 12-23.7^{o}C, with prevailing winds at 9am being WSW at 6kph, Relative Humidity 84%, temperature 18.7 ^{o}C.

Condition monitoring involved carrying out a visual inspection of all 44 nest boxes focusing on the following areas:

i. The overall condition of the boxes including damaged, rotting or splitting timber, condition of lids and clear openings;
ii. The securing mechanisms of the box to the tree;
iii. Checking that the box is securely fastened whilst evaluating the surrounding tree growth; and,
iv. Checking for pest species or evidence of pest species such as rats or bees.

To minimise nest box disturbance, nest boxes and their contents were carefully inspected using a ground based technique of a camera mounted on an extendable pole. A blue-tooth camera was used to remotely view the condition of the nest boxes from the ground, internal signs of nest box use (nest materials, live fauna) and wirelessly control the capture of images. Some nest boxes were accessed via an extendable ladder and appropriate safety equipment was utilised.

During the field inspection, findings were recorded using a pro-forma field data sheet. The images and recordings were later processed on the ground and animals encountered within the nest boxes identified. Where possible, documents and data were reviewed while on-site and verified.

Findings are presented in Table 1, representative images of the nest boxes' contents are included at Appendix B, with a Table of Native Species Identification and Habits[3,4,5] included at Appendix C.

4.0 Results

The overall results of the audit across the five sites provides an insight into the usage and activity rates of the nest boxes as seen in Table 1 and Figure 4 below.

Table 1: Results of 2021 audit across five sites

No. of nest boxes audited	No. of nest boxes in good condition	No. of boxes to be replaced/ repaired	No. of new nest boxes installed after audit	Occupation Rate	Recent Activity Rate (evidence of use)	Overall Habitation	Number of native species types
44	25	19	26 across four locations	18%	41%	57%	5 mammal 1 insect 2 bird

Other issues that should be noted include:

- The number of nest boxes audited fell from 54 in 2017 to 44 in 2021.
- A large number of nest boxes (19) had either been destroyed or were in a poor state of repair, so whilst counted in the number of 44 nest boxes they weren't being utilised.
- Viable box numbers were calculated at 49 in 2017 but only 25 in 2021.
- Number of native species identified increased from 6 species in 2017 to 8 species in 2021 as seen in figure 5 below.

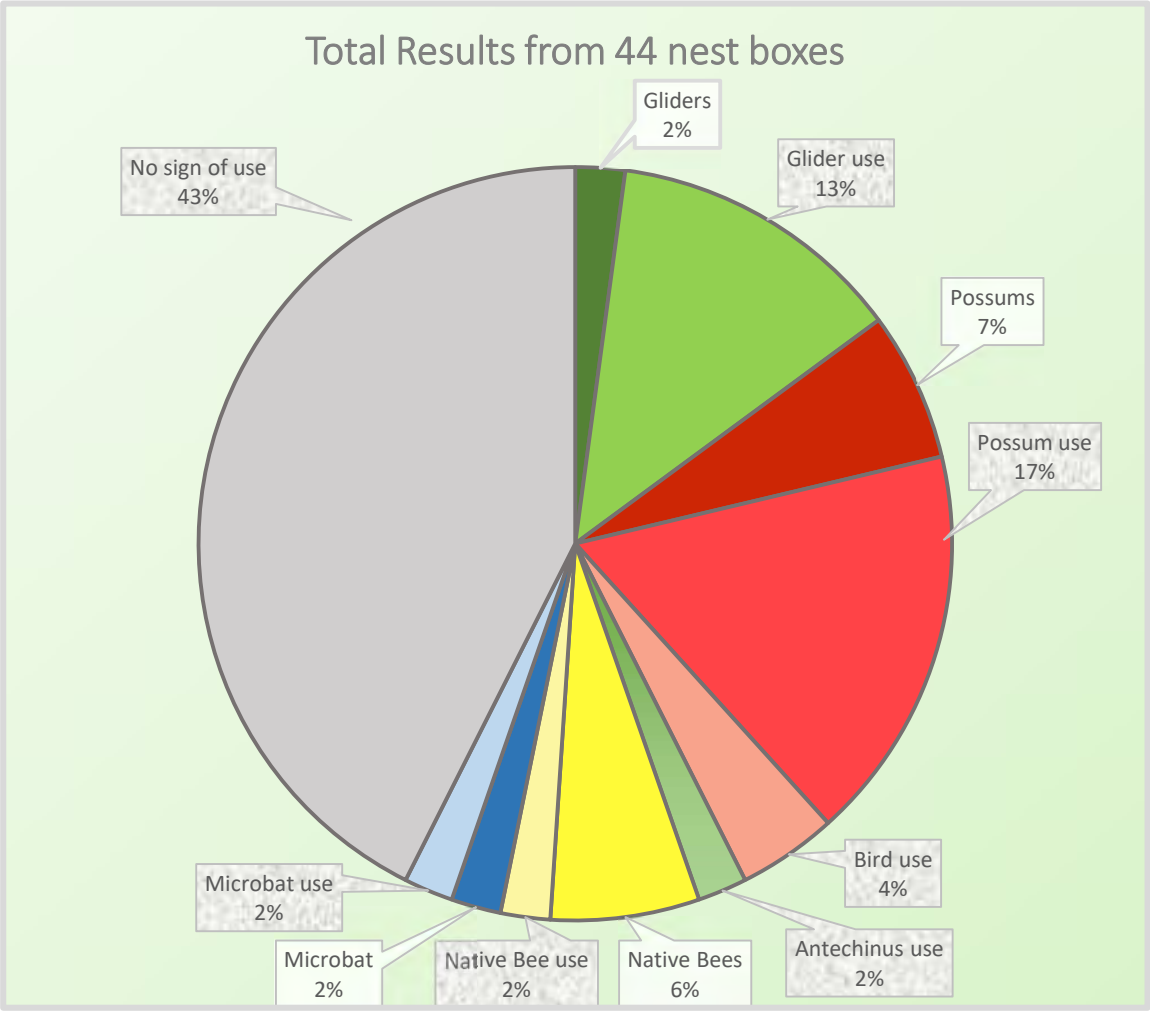

Figure 4: Pie Chart showing occupation and evidence of use for 44 nest boxes

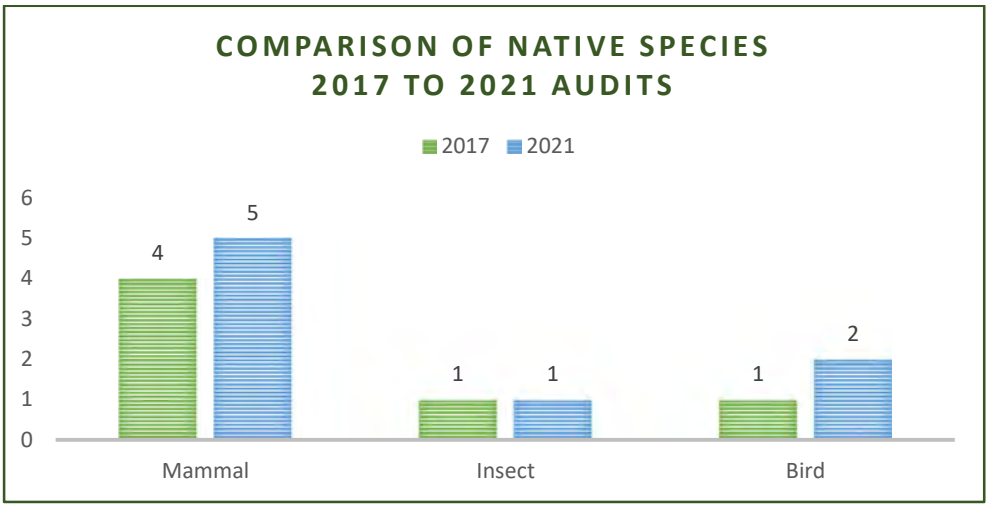

Figure 5: Bar Chart showing comparison of native species from 2017 to 2021

4.1 Yaroomba Bushland Park

A small tract of bushland behind Point Arkwright, with wetland, rainforest, vine forest and Wallum woodlands, and is bordered by residential housing around the perimeter. Ten new nest boxes were installed after the audit was completed, and are highlighted in figure 6 below, so there will now be eleven nest boxes in operation at this site.

Figure 6: Ten new nest boxes installed post-audit at Yaroomba Bushland Park

4.1.1 Initial Nest Box Condition

Of the four nest boxes, only one was in good condition (no. 2); the other three needed to be replaced as two were completely destroyed (nos. 1,3) and one was very badly damaged (no. 4). Replacement has been completed since the audit.

4.1.2 Nest Box Contents

During this inspection, the three nest boxes that need replacing (nos. 1,3,4) were not occupied and had no evidence of use. Nest box 2 was occupied by gliders.

At the previous audit, there were five nest boxes, with one of them containing a glider. As the number of nest boxes since the previous audit has decreased, and three of them were not viable, it is not surprising that there hasn't been an increase in native species present.

Tables 2 and 3 below detail the occupancy by native species and evidence of use. Whilst this has increased from 20% in 2017 to 25% in 2021, it remains at one occupancy by a family of gliders.

Table 2: Occupancy by native species, Yaroomba Bushland Park 2017 and 2021

Year	Number of nest boxes	Number – native species occupancy	Percentage - native species occupancy	Species present within nest boxes	
2017	5	1	20%	Glider	1
2021	4	1	25%	Glider	1

Table 3: Evidence of use by native species, Yaroomba Bushland Park 2017 and 2021

Year	Number of nest boxes	Number - evidence of use by native species	Percentage - evidence of use by native species	Species	
2017	5	4	80%	--	--
2021	4	0	0	--	--

4.2 Coolum–Yandina Road

Located on the Coolum-Yandina Road, inland of Coolum Beach.

4.2.1 Initial Nest Box Condition

A single nest box (Dollar Bird type) is installed and is in good condition.

4.2.2 Nest Box Contents

During this inspection, there was no occupancy noted, but evidence of use by a brushtail possum. The deeper dollar bird box was placed in this position in 2017 to encourage use by dollar birds, and it may be necessary to place an additional box there to achieve this aim.

Therefore, Tables 4 and 5 below detail the lack of sighted occupancy by native species, but shows that it remains in use.

Table 4: Occupancy by native species, Coolum-Yandina Road 2017 and 2021

Year	Number of nest boxes	Number – native species occupancy	Percentage - native species occupancy	Species present within nest boxes	
2017	1	0	0%	--	
2021	1	0	0%	--	

Table 5: Evidence of use by native species, Coolum-Yandina Road 2017 and 2021

Year	Number of nest boxes	Number - evidence of use by native species	Percentage - evidence of use by native species	Species	
2017	1	1	100%	Gliders	1
2021	1	1	100%	Brushtail Possum	1

4.3 Springfield Avenue

A small coastal bushland area touching the dunes at Ninja Beach south of Stumer Creek.

4.3.1 Initial Nest Box Condition

Of the ten nest boxes, five were in good condition (nos. 1,3,4,8,9) one needs a new lid (no. 7) and four need replacing (nos. 2,5,6,10).

4.3.2 Nest Box Contents

During this inspection, nest box 1 had a Brushtail possum, and nest box 8 had native bees in occupancy. There was evidence of use in nest boxes 3,4 (gliders), nest box 9 (brushtail possum). Nest box 2 had the pest species of European bees.

As the number of nest boxes since the previous audit has decreased, (from 11 to 10), with four having been destroyed, it is not surprising that there hasn't been an increase in native species present

Therefore, Tables 6 and 7 below detail the occupancy by native species and evidence of use, which has decreased across both categories due to nest box destruction.

Table 6: Occupancy by native species, Springfield Avenue 2017 and 2021

Year	Number of nest boxes	Number – native species occupancy	Percentage - native species occupancy	Species present within nest boxes	
2017	11	3	27%	Brush Tail Possum Ringtail Possum Native Bee	1 1 1
2021	10	2	20%	Brush Tail Possum Native Bee	1 1

Table 7: Evidence of use by native species, Springfield Avenue 2017 and 2021

Year	Number of nest boxes	Number - evidence of use by native species	Percentage - evidence of use by native species	Species	
2017	11	6	54%	Glider Owlet Nightjar Ringtail Possum Not stated	2 1 1 2
2021	10	3	30%	Glider Brush-tail Possum	2 1

4.4 Cassia Wildlife Corridor

A small wildlife corridor between dense urban area behind Coolum Beach. Has been targeted by Sunshine Coast Council with flying fox dispersal episodes regularly over the past decade.

Figure 7: Cassia Wildlife Corridor located near Coolum Beach

4.4.1 Initial Nest Box Condition

Of the ten nest boxes, one was destroyed (no. 10), two were badly damaged (nos. 1,2) and also need replacing, and seven were in good condition.

4.4.2 Nest Box Contents

During this inspection, the three nest boxes that need replacing (nos. 1,2,10) were not occupied and had no evidence of use, except nest box 2 which had the pest species of European bees and the common mynah.

Nest box 8 had a brushtail possum and nest box 9 had a native beehive. There was evidence of use in nest box 1 possibly by a glider, nest box 5 by microbats, and nest box 7 by a Brushtail possum.

As the number of nest boxes since the previous audit has decreased, and three of them were not viable, it is not surprising that there has not been an increase in native species present. Therefore, Tables 8 and 9 below detail the occupancy by native species has decreased slightly, but with slightly increased evidence of use.

Table 8: Occupancy by native species, Cassia Wildlife Corridor 2017 and 2021

Year	Number of nest boxes	Number – native species occupancy	Percentage - native species occupancy	Species present within nest boxes	
2017	12	3	25%	Possum Glider	2 1
2021	10	2	20%	Brushtail Possum Native Bees	1 1

Table 9: Evidence of use by native species, Cassia Wildlife Corridor 2017v2021

Year	Number of nest boxes	Number showing evidence of use by native species	Percentage showing evidence of use by native species	Species	
2017	12	2	16%	Possum Microbat	1 1
2021	10	3	30%	Brush-tail Possum Microbat Glider	1 1 1

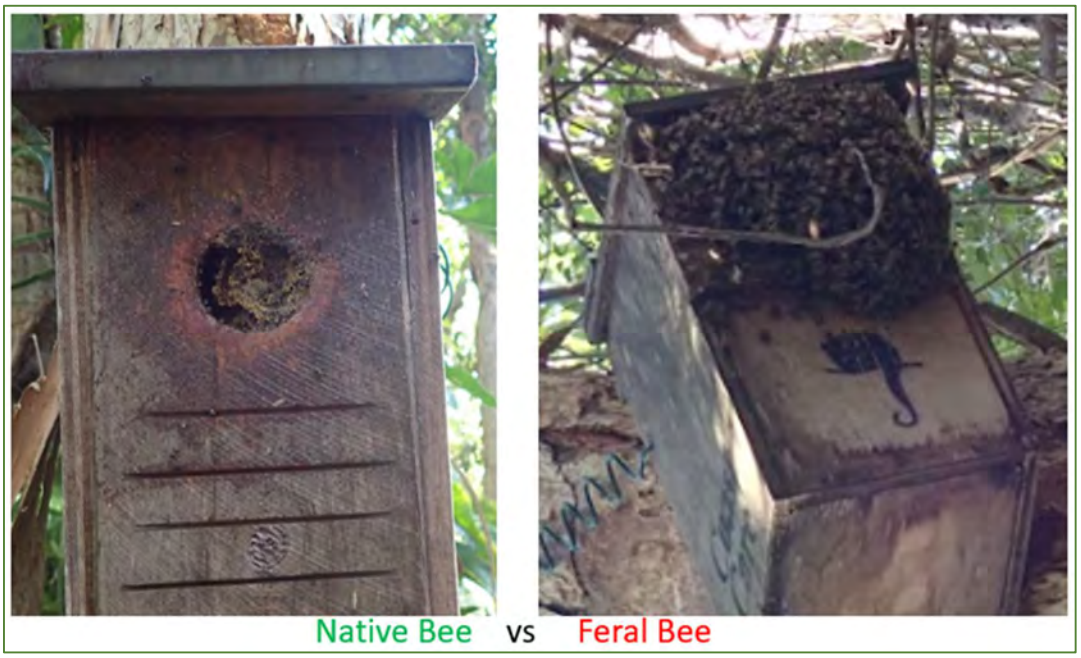

Figure 8: Examples of bee species in nest boxes 9 (native) and 2 (european)

4.5 Maroochy River Conservation Park

Maroochy River Conservation Park, gazetted in 1998, covers approximately 174ha and is situated near the mouth of the Maroochy River at Mudjimba on the Sunshine Coast[6]. The park is managed primarily for nature conservation while allowing low impact and sustainable nature-based recreational opportunities. Across the several areas it contains saltmarsh, beach scrub, swamp oak, paper-barked trees with tall open forest and varied understoreys, heath species, melaleucas, and other native plants[6]. The Conservation Park is bordered by the Twin Waters Golf Club and Golf Academy, with Ocean Drive, Esplanade and Nojoor Road encircling it. The nest boxes are installed throughout the area, with eleven located in the Cottonwood Street Bushland Area.

Figure 9: Maroochy River Conservation Park located behind Mudjimba Beach

4.5.1 Initial Nest Box Condition

Of the 19 nest boxes, 11 were in good condition. Two were destroyed (nos. 1,3) and six were damaged and needed replacing (nos. 2,6,11,15,17,18). These nest boxes (excluding nos. 3 and 17) were replaced after the audit. Four additional new nest boxes were installed.

4.5.2 Nest Box Contents

During this inspection, the two boxes that need replacing (nos. 1,3) were not occupied and had no evidence of use. Of the six nest boxes that need replacement, four (nos. 6, 15, 17, 18) did show evidence of use.

Nest box 8 showed signs of European bees and insects, and nest box 12 showed signs of insect use. It was exciting to note that the diversity of species showing evidence of use of the nest boxes has increased significantly at this site, and is indicative of the need to consider installing additional and different nest boxes to accommodate this.

Tables 10 and 11 below detail the occupancy by native species which has decreased slightly, whilst evidence of use, has increased across both numbers and species type, with dual use in some of the nest boxes.

Table 10: Occupancy by native species, Maroochy River Conservation Park 2017 and 2021

Year	Number of nest boxes	Number – native species occupancy	Percentage - native species occupancy	Species present within nest boxes	
2017	19	5	26%	Ringtail Possum Glider Owlet Nightjars Native Bee	1 1 2 1
2021	19	3	16%	Brushtail Possum Microbat Native Bees	1 1 1

Table 11: Evidence of use by native species, Maroochy River Conservation Park 2017 and 2021

Year	Number of nest boxes	Number - evidence of use by native species	Percentage - evidence of use by native species	Species	
2017	19	8	42%	Ringtail Possum Gliders Owlet Nightjar	1 6 1
2021	19	11	58% * *(two nest boxes with dual use - Possum/Wood Duck 15; ONJ/Glider 17)	Ring-tail Possum Brush-tail Possum Glider Antechinus Owlet nightjar Wood duck Native Bees	1 3 3 1 1 1 1

4.6 Yinneburra

This site wasn't audited, but has since had four new Cyplas nest boxes added, see figure below.

Figure 10: Yinneburra site with nest box types installed

4.7 Point Arkwright

This site wasn't audited, but has since had two new Cyplas nest boxes added, with one remaining as it was occupied by native bees – 3 in total, see figure below.

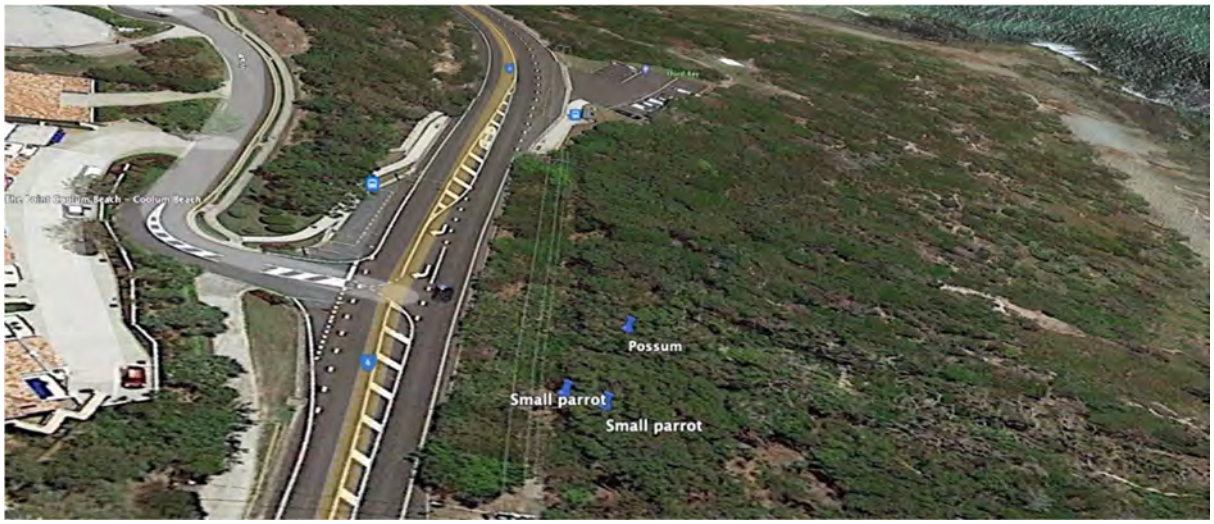

Figure 11: Point Arkwright site with 3 nest boxes installed

4.8 Pest Status

There were no pest species such as rats, house sparrows or European wasps recorded in nest boxes during this inspection, although possible evidence of the Common Mynah (*Acridotheres tristis*) was found in Nest Box 2 at Cassia Wildlife Corridor.

The feral European Honeybees (*Apis mellifera*) were present in three nest boxes at three sites. These feral bee species were brought to Australia in the early 1800s for honey production – this use still occurs today and is considered a valuable industry as well as assisting in crop pollination. However, many swarms have escaped and taken over native bushland where their presence is thought to be harmful due to competition, altering native wildflower pollination, and spreading parasites and weeds[4].

5.0 Summary and Recommendations

The 2021 nest box inspection and audit at the sites on the Sunshine Coast has found that the nest boxes are continuing to offer hollow dependent fauna with a den resource.

5.1 Nest Box Replacement/Repair

1. Replace 19 nest boxes at these sites:
    - Yaroomba – 3 (installed after audit)
    - Springfield Avenue - 4
    - Cassia Wildlife Corridor - 3
    - Maroochy River Conservation Park – 7 (6 installed after audit)
    - Point Arkwright – 2 (installed after audit)
2. Repair of nest boxes will ensure they remain functional for several more years:
    - Springfield Avenue - 1
3. Introduction of new nesting boxes (10-20 per year), which could be installed on poles or in other suitable mature trees. Consideration of sites that will not be subject to disturbance or additional urban uses (such as trails), and should be in habitat that is conducive to the type of species that are usually identified in that area[7].
4. These additional nest boxes were installed after the audit was completed:
    - Yaroomba – 7 additional
    - Maroochy River Conservation Park – 4 additional
    - Yinneburra – 4 additional

5.2 Nest Box Monitoring/Auditing

1. Monitoring should occur twice per year, with annual reporting scheduled to occur to check maximum effectiveness and uptake of boxes[8].
2. Ongoing consideration of whether target species are utilising the nest boxes and further investigation of the habitat for other suitable species that could be targeted[8].

5.3 Maintenance

1. Potential maintenance should be identified and completed during inspections, particularly to ascertain:
    a. Presence of pest species, and eradication.
    b. Additional maintenance to boxes or lids and repositioning or re-fastening boxes.
    c. Checks to ensure drainage and water-proofing are effective, adapt as needed.
2. Ongoing maintenance of existing nest boxes for weatherproofing to ensure they remain a functional resource for wildlife species[8].

6.0 Conclusion

The 2021 Audit of nest boxes on behalf of Coolum & North Shore Coast Care showed an increase in nest boxes that were destroyed or needing major repairs, which may have caused the slight decline in occupancy rates at several sites.

It was heartening to see the indications that the nest boxes are being utilised, as indicated by nesting leaves, feathers and other materials, presence of eggs, scratches, droppings and general interior usage. There has been an overall decrease in this evidence of use from 42% in 2017 to 37% in 2021, but with an increase in the number of native species identified.

A sustainable food source alongside adequate shelter and nesting sites is a key indicator for the ability for native species to reproduce, which would suggest the need for additional nest boxes to be installed, and for eradication of any feral pests or weeds that may hamper the availability of suitable food species to support the native fauna.

Ongoing conservation work, and collaboration with the surrounding urban population, will have important implications for the survival and promotion of native wildlife species in an area which has a wider urban setting and urban recreational usage patterns.

The recommendations to increase the nest box project over coming years should also be complemented by ongoing sympathetic native species plantings and maintenance projects that encourage the growth of the surrounding bushland, with the promotion of naturally-occurring hollows to be a longer term goal.

7.0 References

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Figure 12: Nest Box 1 from Coolum Yandina Rd

Appendix A Excel spreadsheet data of field notes

Box#	Tree species	Box type	Box height	Tree DBH mm	Box condition	Removed	Replaced	New Lid	Aspect	Photo time (hhmm)	Occupied 1=Y/0=N	Evidence of use 1=Y/0=N	Species (nil if not)	Evidence of use by	Notes
Maroochy River Conservation Park															** 4 new boxes installed after audit - nos. 20, 21, 22, 23
1	mellaleucca	Possum	~	~	Replaced by HHH		1		north-east	1055	0	0	nil	nil	destroyed
2	mel	Owlet night-jar		7 500	Replaced by HHH		1		north-east	1100	0	1	nil	nil	Old native bee hive
3	mel	Small parrot		6 400	Removed	1			South	_	0	0	nil	nil	flat pack destroyed
4	mel	FE glider		5 300	Good				South-west	1107	1	occ	native bee	occ	native bee hive
5	mel	Cyplas Possum		6 400	Good				South-east	1110	0	1	nil	BT Possum	Evidence of possum use
6	mel	Wood duck		5 350	Replaced by HHH		1		South-east	1114	0	1	nil	BT Possum	Evidence of possum use
7	mel	Cyplas Owlet night-jar		7 400	Good				North	1115	0	1	nil	Glider	old nest chewed leaves
8	mel	Small parrot		7 300	Good				North-west	1118	0	0	nil	nil	not our box insects bees
9	mel	Owlet night-jar		4 300	Good				South-east	1121	0	1	nil	Glider	nest with fresh leaves
10	mel	Small parrot		6 500	Good				north-east	1123	0	0	nil	nil	not our box no obvious signs of recent use
11	mel	Possum		5 600	Replaced by HHH		1		East	1127	0	0	nil	nil	No obvious signs of recent use
12	mel	FE glider		5 500	Good				South-east	1129	0	0	nil	nil	insect use
13	mel	boobook		5 500	Good				East	1133	0	1	nil	BT Possum	Evidence of possum use
14	mel	Cyplas Rear entry glider		5 300	Good				South-east	1138	0	1	nil	antechinus	ants and possibly antechinus use
15	mel	Possum		7 600	Replaced by HHH		1		South	1141	1	1	possum	wood duck/possum	Possum present on Wood duck eggs
16	mel	2 ch bat		5 700	Good				North	1146	1	occ	microbat	occ	Goulds long eared microbats
17	mel	Small parrot		6 400	Needs Replacing		1		South-west	1155	0	1		oni/glider	entry heavily chewed. Old owlet night jar nest and old glider nest
18	iron bark	Small parrot		4.5 350	Replaced by HHH		1		north-east	1202	0	1	nil	RT possum	ring tail possum drey
19	mel	Small parrot		6 400	Good				South-west	1207	0	1	nil	Glider	old nest
20		new box													
21		new box													
22		new box													
23		new box													

Box#	Tree species	Box type	Box height	Tree DBH mm	Box condition	Removed	Replaced	New Lid	Aspect	Photo time (hhmm)	Occupied 1=Y/0=N	Evidence of use 1=Y/0=N	Species (nil if not)	Evidence of use by	Notes
Yaroomba Bushland Park															
1	blue gum	Small parrot	10	400	Replaced by HHH	1			north-east	1238	0	0	nil	nil	box destroyed
2	blood wood	FE glider	5	450	Good				East	1240	1	occ	glider	occ	
3	blue gum	FE glider	7	400	Replaced by HHH	1			North	1246	0	0	nil	nil	destroyed
4	forest tree	Bat	6	300	Replaced by HHH	1			East	1253	0	0	nil	nil	
5		new box													
6		new box													
7		new box													
8		new box													
9		new box													
10		new box													
11		new box													
Cassia Wildlife Corridor															
1	mel	Owlet night-jar	7	300	Needs Replacing		1		South-east	127	0	1		Glider	old nest chewed leaves
2	mel	Possum	6	400	Needs Replacing		1		South-west	131	1	occ	nil	occ	euro bees/introduced mynah
3	bloodwood	2 ch bat	5	400	Good				North	132	0	0	nil	nil	entry clear
4	stringy bark	2 ch bat	4	350	Good				South-east	136	0	0	nil	nil	
5	mel	1 ch bat	6	500	Good				South	137	0	1	nil	microbat	entry clear stained
6	mel	2 ch bat	6	350	Good				East	146	0	0	nil	nil	
7	mel	Kookaburra	5	400	Good				East	149	0	1	nil	BT Possum	
8	mel	Possum	6	400	Good				East	157	1	occ	BT Possum	occ	brush-tail possum in box
9	mel	FE glider	6	400	Good				north-east	202	1	occ	native bee	occ	native bee hive
10	bloodwood	FE glider	–	400	Needs Replacing		1		North	no photo	0	0	nil	nil	box destroyed

** 10 new boxes installed after audit - nos. 1, 3, 4, 5, 6, 7, 8, 9, 10, 11. There is now 11 nest boxes in total.

Box#	Tree species	Box type	Box height	Tree DBH mm	Box condition	Removed	Replaced	New Lid	Aspect	Photo time (hhmm)	Occupied 1=Y/0=N	Evidence of use 1=Y/0=N	Species (nil if not)	Evidence of use by	Notes
Springfield Avenue															
1	mel	Possum		4	300 Good				South-east	234	1	occ	BT Possum	occ	Brush tail possum with mange
2	bloodwood	Possum		7	400 Needs Replacing		1		North	240	0	0	nil	nil	box destroyed bees?
3	mel	small parrot		7	400 Good				North	243	0	1	nil	Glider	flat pack parrot glider nest
4	white gum	Cyplas RE glider		7	700 Good				north-east	248	0	1	nil	Glider	cyplas fresh glider nest and old European bees hive
5	bluebgum	Possum		5	600 Needs Replacing		1		North	252	0	0	nil	nil	box destroyed
6	blue gum	Possum		6	400 Needs Replacing		1		North	255	0	0	nil	nil	box destroyed
7	mel	RE glider		6	350 Needs new lid			1	North	257	0	0	nil	nil	old nest no lid
8	stringy bark	Owlet night-jar		5	300 Good				North-west	306	1	occ	native bee	occ	Native bee hive
9	blood wood	cyplas Possum		7	500 Good				North	308	0	1	nil	BT Possum	Evidence of possum use
10	blood wood	Possum	-		400 Needs Replacing		1		Select below	310	0	0	nil	nil	box destroyed
Coolum-Yandina Road															
1	mel	Dollar bird		7	500 Good				North	330	0	1	nil	BT Possum	evidence of possum use
							14	1							
Yinneburra (Yaroomba Beach, Access 87)						?									All boxes removed ** 4 new boxes installed after audit - nos. 1, 2, 3, 4
Point Arkwright (rd Bay PA Bike Track)						?									** 2 new boxes installed after audit - nos. 2, 3
1															This box left as it was occupied by native bees
2		new box													
3		new box													
															26 new boxes installed across 4 locations

Appendix B 2021 Field Photographs

All photographs were provided to CNSCC in a digital format to ensure access to high picture quality and clarity and for online storage. A sample of photographs are included in this Appendix for illustrative purposes.

Appendix C Native Species Identification

Table 12: Native Species Identification[3,4,5]

Family	Common Name	Scientific Name	Habits
Possums	Brushtail Possum	*Trichosurus vulpecula*	Common. Nocturnal. Utilises a large range and size of nest boxes, for shelter and breeding.
Possums	Common Ringtail Possum	*Pseudocheirus peregrinus*	Common. Nocturnal. Usually produces 2-3 offspring. Feeds on flowers and leaves. Nests (drey) are made using twigs, bark and leaves.
Small Gliders	Squirrel Glider	*Petaurus norfolcensis*	Common in Brisbane. Nocturnal. Each colony uses up to 5 nesting hollows. Colonies are loosely family based with up to 12 Gliders in each colony, 3-5 individuals using one nest hollow.
Microbats	Gould's long-eared Bat	*Nyctophilus gouldi*	Found in wetter and more dense vegetation, riparian forests, swamps and mangroves. Roosts under bark and in tree hollows.
Owls	Owlet Nightjar	*Aegotheles cristatus*	Common. Nocturnal. Nest holes in trees or fenceposts are used for daytime roosting and breeding, lined with leaves, 3-4 eggs.
Ducks	Wood Duck	*Chenonetta jubata*	Common. Favours wetlands, grasslands. Hole in tree lined with down for nesting. 7-10 eggs.
Scansorial Mammals	Antechinus – likely Brown Antechinus or Yellow-footed Antechinus	*Antechinus stuartii* *Antechinus flavipes*	Common in restricted habitat. Nocturnal.
Insects	Native Bee – Sugarbag Bee	*Trigona carbonaria*	Stingless bee, endemic to north-east coast of Australia. Known to pollinate orchid species, tubular and shallow flowers. Build nests inside living or dead trees, usually in large colonies.