Ecological Statement – Targeted Yangochiroptera inspection, Building 19, Ryde Hospital

1. Introduction and project understanding

At the request of AW Edwards, Lesryk Environmental Pty Ltd (Lesryk) has been engaged to conduct a targeted Yangochiroptera (insectivorous bats, hereafter referred to as 'microbat') inspection at the above site that occurs within Ryde Hospital.

As there is the potential for those cave-dependent microbats that are tolerant of occupying human-built structures to utilise Building 19, a targeted inspection for this group of animals was conducted. The inspection considered both the internal portions of the building present, and its exterior (particularly in relation to determining the presence of any suitable entrance/exit cavities).

Ryde Hospital is a complex of 20 interconnected buildings used as for medical centres, Cafe's and NSW Health offices. The buildings are predominantly composed of brick and cladding. Ryde Hospital is located 2.30 kilometres (km) north-west of Top Ryde City Shopping Centre and 4 km south of Devlin's Creek. The buildings are all currently in use for up to 24 hours a day, however, the structure inspected is only in use between the hours of 07:00 am and 05:00 pm.

Generally, Building 19 is well kept with signs of recent upgrades to the interior. Externally, the structure investigated was noted to exhibit a number of openings and crevices that could be used by microbats to access Building 19.

The inside of Building 19 was well lit and did not support any 'dark places' that would be suitable for the roosting requirements of cave-dependent microbats. It was also noted that there was significant anthropomorphic activity (e.g. noise and light generation) occurring throughout the structure.

In regards to the sites that supported openings, gaps and crevices, inspections of these noted that most exhibited areas encased in spider webs (the built-up dust covering on a number of these indicating their age). The presence of spiderwebs over and within suitable gaps/crevice's indicates that these are not being used by microbats (if microbats were accessing these sites, the movements of their bodies/wings would preclude the development/permanency of spiderwebs).

The internal inspection of the roof cavity and crawl space noted a clear and dark area, suitable for the roosting of microbats.

A photographic record of the areas inspected and general site character is provided in Attachment 1.

2. Methodology

Building 19 (this hereafter being referred to as the subject site), was investigated on 06 September 2024 by Lauren Crofts (B.Sc Grad Cert Env.Sc M.EnvSc.Mngt) and Oliver Wallace (Undergraduate B.Env.Bio) between the hours of 07.00 AM and 08.00 AM.

The inspection focused on:

1) Conducting foot traverses around the outside of the building to determine if any suitable roosting sites (such as crevices, overhangs and the like), or openings that permit access into the roof space, were present
2) Conducting foot surveys internally of Building 19, particularly any sites that are 'dark'.

The methods employed to targeted any microbats and their potential breeding/roosting habitat is based on the Roost Search method described in the:

- OEH 2016 publication titled '*Threatened Bat Survey Guidelines for NSW: NSW guide for the survey of threatened bats and their habitats for offset methodologies*'
- OEH 2018 publication titled '*Species credit' threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method*'.

To assist with the inspections, a 4 rung 1400-millimetre-high industrial rated step ladder, hand-held torches and echolocation detector were employed. Whilst conducting the surveys, a hand-held echolocation detection device (a Titley Scientific WalkAbout AnaBat Express™) was used. Where potential cavities, overhangs or crevices were seen, the unit's microphone was directed into these. The microphone was held by hand throughout the duration of each site inspection to detect any microbat calls.

The echolocation detector was operated externally and in accessible internal portions of the building surveyed (such as roof cavities). As the majority of Building 19 was occupied, it is likely that, should any microbats be present, these would have been noted by the occupants.

By the completion of the field inspection, about 45 minutes of echolocation recording had been accumulated.

Any calls recorded were analysed in-house using AnaBat 6.3 computer software.

In conducting the inspections carried out within the internal portions of the building present, guano accumulations, characteristic staining and/or deceased microbats were searched for.

During the course of the inspection, no limitations such as adverse weather conditions (e.g. rain or low/cold temperatures), reduced visibility or limited access were encountered.

3. Results

During the site inspection, a number of cavities, crevices and ‘holes’ that could be used by microbats to access Building 19 were observed on both its exterior and interior. The openings were primarily access ‘holes’ into the crawl space and crevices which open and provide access into the roof cavity of the building.

Some portions of Building 19 supported dark recesses in the crawl space and roof cavity that could be used by microbats as roosting sites. That stated, inspections of these did not reveal any roosting individuals, and no staining, characteristic guano or deceased bats were recorded.

Similarly, inspections of the other portions of the building surveyed did not reveal any roosting microbats, or signs of their previous occupation.

Only one native vertebrate species was recorded during the time of inspection, this being a Welcome Swallow (*Hirundo neoxena*). This species was observed flying around Building 19, this bird not listed, or currently being considered for listing, under the NSW *Biodiversity Conservation Act 2016* or Federal equivalent. No characteristic Welcome Swallow nests were observed in association with the exterior of Building 19.

4. Conclusion

By the completion of the site inspection, no microbats were observed within Building 19. In addition, no evidence to suggest past use of this building, such as guano accumulations, characteristic staining or deceased animals, by microbats was obtained.

Based on the observations made at the time of the inspection, it is not considered that any species of threatened cave-dependent microbat are currently, or have previously occupied, Building 19 within the Ryde Hospital complex.

One native fauna species, a bird, was recorded within the environment of Building 19, this species not listed, or currently being considered for listing, under the NSW *Biodiversity Conservation Act 2016* or Federal equivalent.

5. Bibliography

Churchill, S 2008, *Australian bats - 2nd Edition*, Allen and Unwin, Crows Nest, NSW

Office of Environment and Heritage 2016, *Threatened Bat Survey Guidelines for NSW: NSW guide for the survey of threatened bats and their habitats for offset methodologies*. State of NSW and Office of Environment and Heritage, Sydney, NSW

- 2018, *Species credit' threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method*. State of NSW and Office of Environment and Heritage, Sydney, NSW

- 2024, *Threatened biodiversity profile search*, viewed September 2024.

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Document control

File location: P:\Lesryk Projects Current\AWEdwards\Ryde Hospital\Report\Building 19

Version	Date	Prepared by	Reviewed	Approved for release
1	09/09/24	Lauren Crofts (Ecologist) M| 0400337452	D.Engel (Director)	D.Engel 10/09/2024

Attachment 1. Photographic record of the building inspected (photographs taken 06/09/2024)

	Plate 1: Example of a potential microbat roosting cavity observed in the external roof overhang of the building surveyed.

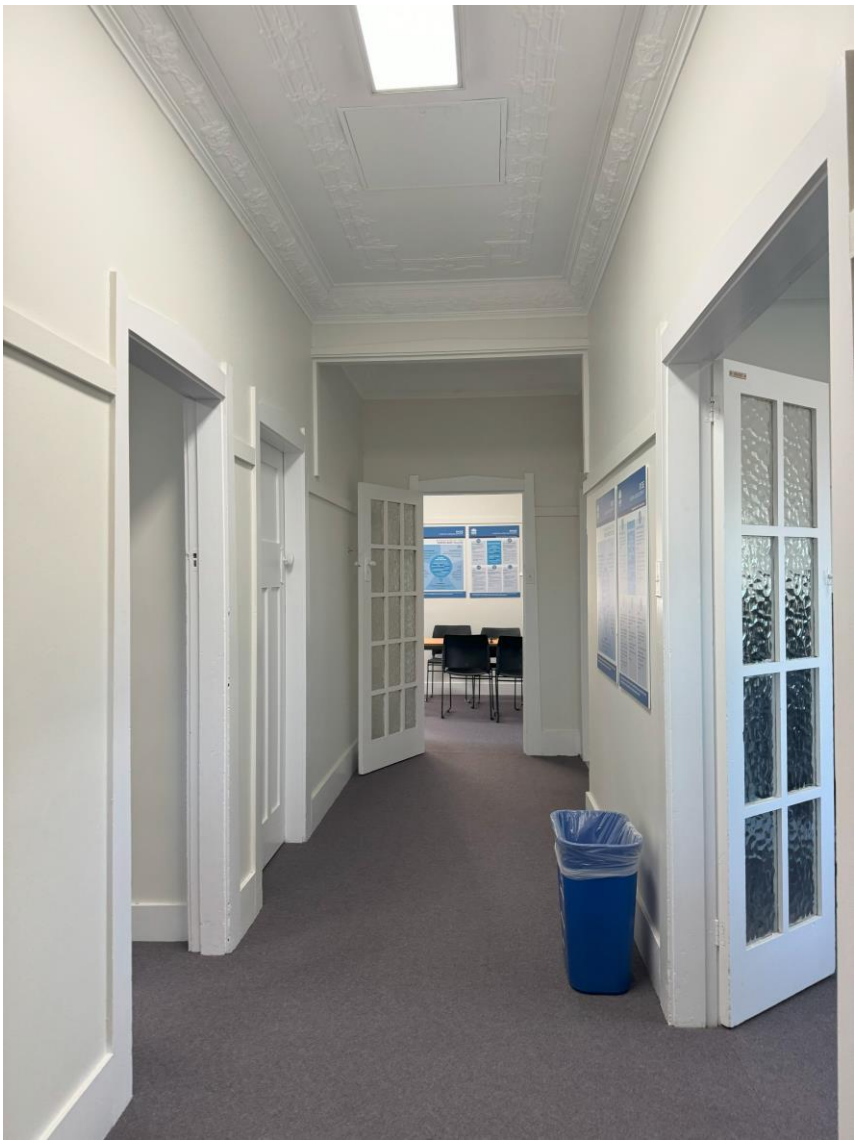	Plate 2: General character of this inside of the building inspected. Note the access point to the roof cavity used for the inspection (centre of photograph, next to light).

	Plate 3: General character of the external composition of the rear of the building.
	Plate 4: Example of exotic vegetation present near, and the brick composure of, the building's exterior (front of the building).

	Plate 5: Example of an opening into the crawl space under the building inspected.

	Plate 6: General character of the interior of the crawl space under the building inspected. Note some visible spider webs, however, generally clean. No guano or signs of microbat roosting visible.