# MEMO

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| **TO:** | Michael Terrett |
| **FROM:** | Josie Stokes |
| **SUBJECT:** | **Targeted Microbat Surveys- Qantas Flight Training Project** |
| **OUR REF:** | PS113050-ECO-MEMO-001 RevA |
| **DATE:** | **7 August 2019** |

## BACKGROUND

This memo has been prepared for APP and provides a summary of the targeted microbat surveys undertaken recently for the Qantas Flight Training Project.

It is understood that the Environment, Energy and Science Group (EES, formerly the NSW Office of Environment and Heritage) raised specific comments about Microbats in their submission to the Qantas Flight Training EIS (5 July 2019). The EES submission response included the requirement for further information to confirm the absence of roosting habitat for threatened microbats.

To address the EES response, APP commissioned WSP to undertake a targeted microbat survey on 31 July and 1 August 2019.

## METHODOLOGY

### Desktop database searches

Desktop searches of the BioNet and Atlas of Living Australia databases were undertaken on 23 July 2019 to identify threatened microbats that are known to, or have the potential to occur, within 10 kilometres of the subject land.

### Diurnal surveys

A diurnal (daytime) inspection of all existing buildings proposed for demolition was undertaken by two WSP Ecologists on 31 July. One of the ecologists, Josie Stokes, is an appropriate threatened bat surveyor as defined by OEH (2018).

Two buildings were searched for microbats or signs of microbats (urine stains, droppings, remains, and bat fly casings) using a head torch and a handheld torch (WolfEyes X Beam). A handheld microbat detector (EchoMeter Touch 2, Wildlife Acoustics) was carried during the diurnal surveys to record and identify any microbats that may call. A ladder was used to inspect roof spaces and building eaves.

### Roost watch/exit surveys

A roost watch/ exit survey of the two buildings proposed for demolition was undertaken over two evenings (31 July and 1 August 2019). This involved two trained observers watching for any bats emerging from the buildings prior to dusk (approx. 17:45) and until about an hour after dusk (18:45). A handheld microbat detector (EchoMeter Touch 2, Wildlife Acoustics) was recording during this time.

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**Compliance with 'Species credit' threatened bats and their habitats NSW survey guide for the Biodiversity Assessment Method' (OEH 2018) for Large-footed Myotis.**

| **OEH (2018) requirements for Large-footed Myotis** | **WSP compliance with requirements** |
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| Roost search: Any bridges, tunnels, culverts or other structures identified as potential breeding habitat should be searched for bats or signs of bats (guano etc). – 30 min per feature.<br><br>A torch should be used and attention paid to inspecting cracks or seams in the roof.<br><br>A handheld bat detector can alert the searcher to ultrasonic calls. | This species is not known or predicted on the subject land. Therefore, in accordance with the Threatened bat survey decision key (OEH 2018), *survey is not required for this species.*<br><br>**This microbat survey was in response to an EES submission on the EIS.**<br><br>Two buildings were inspected by WSP for signs of Large-footed Myotis for approximately 2 hours. This exceeds the OEH (2018) requirement of 30 mins per feature. WSP searched an additional feature (concrete plank bridge) outside the subject land for bats or signs of bats.<br><br>A hand-held torch and a head torch were used to inspect holes and roof cavities. There were no cracks/roof seams and no bats or signs of bats detected.<br><br>A hand-held bat detector was recording during the building inspections. No bats were recorded.<br><br>Although not required by OEH (2018), a roost watch/exit survey of the two buildings was undertaken over 2 consecutive nights (4 people hours). A hand-held bat detector was recording throughout the survey. No bats were detected over the two nights. |
| **OEH 2018 requirements for Yellow-bellied Sheath-tail Bat** | **WSP compliance with requirements** |
| The Yellow-bellied Sheath-tail Bat is assigned to the ecosystem credit class and in accordance with the Threatened bat survey decision key (OEH 2018), survey is not required for this species. | While not specifically targeting the Yellow-bellied Sheath-tail Bat, the survey methods employed by WSP would have detected this species if it was present. |

## RESULTS OF THE TARGETED MICROBAT SURVEYS

**Desktop database searches**

Two threatened microbats have been recorded within 10 kilometres of the subject land:

- Large-footed Myotis (*Myotis macropus*) (4 records)
- Yellow-bellied Sheathtailed Bat (*Saccolaimus flaviventris*) (1 record)

The Large-footed Myotis is assigned to the species credit class under the BAM (OEH 2017), and the Yellow-bellied Sheath-tail Bat is assigned to the ecosystem credit class.

**Diurnal surveys**

No microbats or signs of microbats were found during diurnal visual inspections of both buildings. No microbats were recorded on the handheld microbat detector (EchoMeter Touch 2, Wildlife Acoustics) used during the visual inspections.

The types of potential microbat roosting habitat in the buildings included roof space cavities in a disused security building (Figure 4), and broken sections of Hebel blocks in the wall of the large, still in use warehouse (Figure 2). All holes and roof cavities were inspected and no microbats or signs of microbats were found.

**Roost watch/exit surveys**

No microbats were observed flying out of (or around) either of the buildings during the roost watch/exit surveys on either of the survey nights. The ambient temperature was about 15-17°C with the wind chill factor highest on the first evening. The insect activity was marginally higher on the second evening and the moon phase was a new moon/black moon.

No microbats were recorded on the handheld microbat detector (EchoMeter Touch 2, Wildlife Acoustics) during the exit surveys.

## RECOMMENDATIONS

Based on the results of the targeted microbats surveys, it is considered unlikely that any threatened microbats are using either of the buildings as a permanent roost site.

There is more suitable roosting habitat for both Large-footed Myotis under two concrete plank bridges that span the canal, approximately 100 metres north of the buildings. The underside of one of the bridges was inspected during the diurnal targeted survey but no microbats, or signs of microbats, were observed (Figure 5).

It is acknowledged that the survey time is not considered ‘optimal’ for the Large footed as outlined in the NSW Survey Guide for the BAM (OEH 2018). However, if any microbats were present, the methodology employed during the surveys would have been able to detect them.

Given that no survey can truly rule out the occurrence of a threatened species, it is recommended the CEMP for the Project includes a safeguard for a ‘pre-clearance’ survey for fauna (eg nesting birds) immediately prior to demolition of the buildings. If any animals are injured during demolition, the Environment Representative should call WIRES or Sydney Wildlife for assistance.

## REFERENCES

‘Species credit’ threatened bats and their habitats – NSW survey guide for the Biodiversity Assessment Method, NSW Office of Environment and Heritage (OEH) 2018.

## Figures

Figure 1. Large Wargehouse, still in use.

Figure 2. Potential microbat roosting habitat within the wall of the warehouse. This was inspected during the diurnal survey and no microbats or signs of microbats were observed.

Figure 3. Disused security building.

Figure 4. Roof cavity space in disused security building being inspected for microbats. This was inspected during the diurnal survey and no microbats or signs of microbats were observed.

Figure 5. Concrete plan bridge decking (underside) spanning concrete lined canal approx. 100m north of the buildings. Water was present in the canal during the diurnal survey.

No microbats or signs of microbats were observed when this bridge was inspected on 31 July 2019.