

Appendix KK: AIP – Desktop Bat Assessment Report

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Ashburton Infrastructure Project – Desktop bat assessment.

Eco Logical Australia (ELA) has tasked Bat Call WA P/L (Bat Call) with completing a desk top assessment for interactions with bat species at Mineral Resources' (MinRes) Ashburton Infrastructure Project (AIP) haul road, Figure 1. The AIP includes a fully sealed private haul road, commencing at the boundary of the approved Bungaroo South haul road and will continue approximately 125 km west to the Port of Ashburton, south of Onslow. Particular reference is to be placed on interactions with the two bat species listed as Vulnerable under federal and state legislation, the Ghost bat (*Macroderma gigas*) (PGb) and the Pilbara leaf-nosed bat (*Rhinonictoris aurantia*) (PLNb).

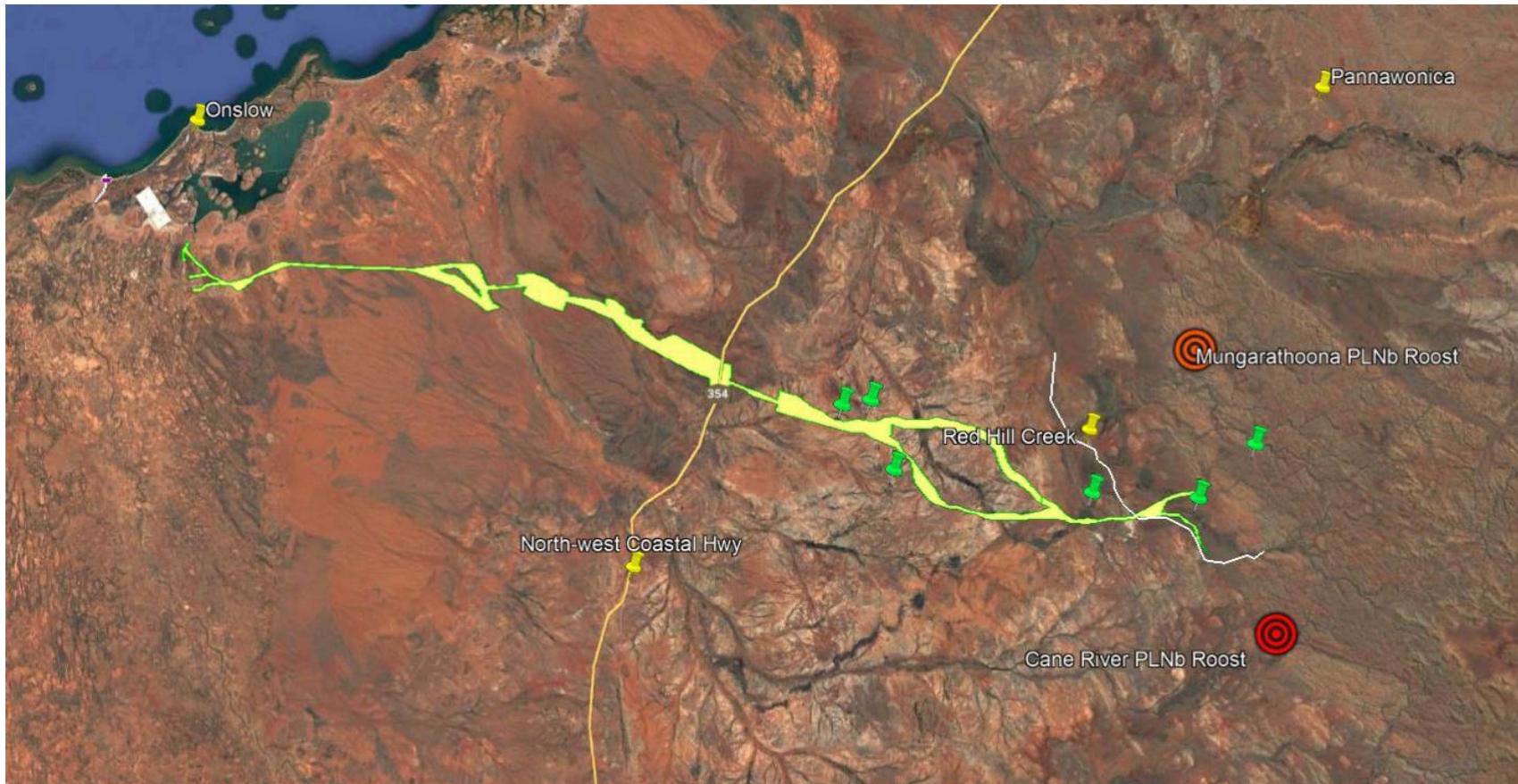


Figure 1. Proposed AIP haul road development envelope.

The heavy white line represents the length of Red Hill Creek adjacent to the haul road. The two red circles represent the closest PLNb roosts to the haul road. The green pins indicate groups of mesas that support occasional PGb roosting. PGb are also regularly present in the Hamersley Range uplands east of the road.

ELA has provided relevant information covering the project as follows:

- 360 Environment, Vertebrate Fauna and Short-Range Endemic Invertebrate Fauna Assessment of the Ashburton Infrastructure Project, Rev 1 dated September 2021 (360E 2021),
- AIP, EPBC Act Terrestrial MNES Referral Supporting Document, ENV-TS-RP-032 at Rev A dated October 2021 (MRL 2021),
- Haul Road Development Envelope shape file,
- Haul Road Indicative Footprint shape file,
- Fauna habitat for the haul road survey area shape file, and
- Recorded locations of conservation significant fauna shape file.

The scope of the desktop assessment include:

1. A review of available background information relevant to the project and surrounding area including the 360 Environment Vertebrate Fauna and Short-Range Endemic Invertebrate Fauna Assessment of the Ashburton Infrastructure Project.
2. A discussion of the likelihood of occurrence of the above species, including local and regional context, and type of use, and the value of the habitat present. The 360E (2021) report supplemented by Bat Call's extensive data base is to be used.
3. A discussion of the potential impact pathways from the project in relation to the above species and the significance of these impacts to these species.

Likelihood of occurrence of the listed bat species.

I have reviewed the information and data provided and have found it to be a comprehensive review of the interactions between the AIP haul road and the two bat species. MRL (2021) relies heavily on the published conservation advice documents for the two listed species TSSC (2016a, 2016b) and the results of the environmental surveys carried out (360E 2021).

1. MRL (2021) accurately reflects the presence of the PLNb species of bat as being present in low to moderate numbers nearby the haul road east of Red Hill Creek and in low numbers west of Red Hill Creek. There are no PLNb permanent roosts within 12 km of the proposed haul road and the reported detections of this species are foraging bats (after TSSC 2016a). The Cane River roost is 12 km and the Mungarathoona roost is 17 km from the nearest respective points on the road. The detections are consistent with the known distribution and behaviour of the species. PLNb are known to forage out to 20 to 25 km from their roost on a regular basis (Bullen 2013, 2019). The next closest PLNb roosts are close to the Robe River over 25 km to the north. The presence records in Bat Call's data base shows that the species may be regularly recorded foraging along the length of Red Hill Creek, Kununda Creek nearby Kens Bore mesa and in the adjoining ranges. It is also very occasionally recorded foraging across the plains to the west of Red Hill Creek, in particular along ephemeral drainage lines. Occurrence of and/or interaction with this species along the proposed haul road footprint may therefore be expected on a very occasional basis.
2. MRL (2021) accurately reflects the presence of the PGB species as being present in low numbers east and west of Red Hill Creek. This bat is known to roost in low numbers in caves on the mesas and ranges (TSSC 2016b) to the north, south and east of the proposed haul road (Bat Call unpublished data base) and it is known to forage across the adjoining landscape. The detections reported in 360E (2021) are consistent with its known regional distribution and behaviour, both

roosting and foraging. However, the potential for interaction along the haul road with this species while foraging, being based on information presented in TSSC (2016b) has been shown to be superseded by research as yet unpublished that indicates that the species regularly forages out to 10 to 12 km from its roost caves, and further, does not limit its foraging habitat to drainage lines, stony hills and slopes. This recent research suggests that the potential for interaction with foraging and/or commuting bats along the proposed haul road is variable. Due to the proximity of Kens Bore Mesa within 1 km of the proposed haul road and the Hamersley Range uplands 5 km further the east, the potential for interaction should be considered moderate to high to the east of Red Hill Creek. It should be considered low along the length of road on the plain between Red Hill Creek and the North-west Coastal Hwy (NWCH) due to the proximity of several small mesas containing caves, several of which are within 1 km of the proposed route. Due to the absence of roosting opportunities, it should be considered very low west of the NWCH.

Impact pathways for the two listed bat species.

There are impact pathways on the listed bat species to be considered. These are adequately described in Section 4 of MRL (2021). Of these, there are three impact pathways that I consider to be of potential significance to the listed bat species. These are loss of foraging habitat, potential for vehicle collisions and entanglement with fencing. Other potential impacts due to such things as noise, dust, vibration, etc. are not considered significant for this project. There is a similar haul road, unsealed, in the East Pilbara from the Atlas Iron Abydos project that passes under 1 km from a critical habitat roost at Lalla Rookh that contains many hundred individuals of both species. Monitoring at the roost has shown no impact on the bats present over a number of years of operation of the road.

Loss of foraging habitat. MRL (2021) states that a total of 1,564 Ha of potential foraging habitat will be cleared by the project, approximately half to the east and west of the NWCH, the majority of which is stony or vegetated plain. The potential for the PGB in particular to forage across this habitat should not be underestimated based on recent unpublished research. This however represents a very small percentage, under 1%, of foraging habitat in the district available to and likely to be utilised by the bats. Approximately half of the road's length is west of the NWCH and the likelihood of foraging PLNb and/or PGB is very low. Approximately half is east of the NWCH, and the adjoining habitat within 10 km of the road totals approximately 150,000 Ha. Approximately half of this is between the NWCH and Red Hill Creek and the likelihood of foraging PLNb and/or PGB in this area is considered low. Approximately half is east of Red Hill Creek and its environs and the likelihood of foraging PLNb and/or PGB in this area is considered moderate to high.

Potential for vehicle collision. With any haul road installation, there is the potential for impact with the two listed bat species. This is addressed in MRL (2021) for both the construction phase and the operational phase of activity. MRL (2021) section 6 does indicate in several places the intention of limiting vehicle speeds. No advice is offered however as to what those speeds may be although being sealed it is possible that the speed limit may be in the range of 100 kph. Given that both bat species are known to, and have been recorded to, forage across the plain, and there are several records of interactions between PLNb and high-speed vehicles consistent with their use of roadways at night (Churchill 2008), a recommendation for a reduced speed limit of 80 kph for both light and heavy vehicles during night-time operations would be appropriate.

Potential for entanglement in haul road fencing. Fencing is integral to good land and stock management in the pastoral, mining lands of the Pilbara, but it needs to be built in a manner compatible with wildlife, including Ghost bats. Recognising that the road passes through pastoral lands over its full length, it is recommended that three and four strand wire fencing in the Pilbara be built according to the perceived risk area that applies. PGB in particular are known to become entangled in barbed wire fencing during commuting and/or foraging. There are numerous records of fatalities resulting from entanglement (TSSC 2016b). MRL (2021) addresses this risk in several places, however the text is inconsistent between section 4.1.2, tables 5, 10 and 11. ELA have advised that the project planning is based on there being no barbed wire used for this project along the length of the haul road and that mesh is proposed to be used around underpasses. However, should the risk of collisions with cattle that have pushed through a non-barbed wire fence be considered unacceptable, there is a potential for use of barbed wire in a limited manner, together with suitable bat deflectors, in the areas considered to have low or very low interaction potential west of Red Hill Creek. Given the moderate to high risk of entanglement, the recommendation for non-barbed wire fencing east of Red Hill Creek should remain.

Concluding Remarks.

I have reviewed the information provided in support of the proposed AIP haul road as requested. Key findings relevant to impacts to Ghost bats and Pilbara leaf-nosed bats include:

1. No impacts to Pilbara leaf-nosed bats or their roosts in the district are foreseen.
2. There is no short- or long-term impact on Pilbara leaf-nosed bat or Ghost bat foraging expected. Loss of foraging habitat for both species along the full length of the road is understood to be 1564 Ha. Given that both listed species of bat forage out to 10 km, and further from their roosts, the areas east of NWCH represent a very small percentage, under 1%, of foraging habitat in the district available to and likely to be utilised by the bats.
3. There are three sections of the road that present varying levels of possible interaction by Ghost bats and/or PLNb, with moving vehicles. These are:
 - East of Red Hill Creek there are a number of mesas and uplands within 10 km of the proposed road that have caves that support roosting Ghost bats on a regular or occasional basis. These and the creek lines also attract foraging PLNb.
 - Between Red Hill Creek and the NWCH there are a small number of mesas within 10 km of the proposed road that support roosting Ghost bats on an occasional basis. PLNb are also known to forage in these areas.
 - West of the NWCH, it is expected that Ghost bats and/or PLNb will be encountered on a very occasional basis.
 - Enforcement of an 80 kph speed limit on all vehicles using the haul road and its access track is recommended.
4. Use of barbed wire is not planned for use along the haul road. However contingency planning for use of fencing designs including barbed wire that are Ghost bat friendly, i.e., will not result on entanglement, is recommended.

Yours sincerely



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Managing Director and Principal Ecologist

References:

- Bullen, R. (2013). Pilbara leaf-nosed bat, *Rhinonicteris aurantia*: Summary of current data on distribution, energetics and threats. Presentation made to Western Australian Department of Environment and Conservation workshop on Pilbara leaf-nosed bats, 25 June 2013
- Bullen, R. (2019). Pilbara leaf-nosed bat, *Rhinonicteris aurantia*: Summary of current data on distribution, energetics and threats. Presentation made to Western Australian Department of Biodiversity, Conservation and Attractions (DBCA) 28 November 2019.
- Churchill, S. (2008). Australian Bats, second edition. Allen and Unwin, Australia.
- MRL (2021). Ashburton Infrastructure Project, EPBC Referral Terrestrial Supporting Document, ENV-TS-RP-032. Rev A dated October 2021 (MRL 2021).
- Threatened Species Scientific Committee (2016a). Conservation advice, *Rhinonicteris aurantia*, Pilbara leaf-nosed bat. Australian Government Department of Environment, dated 10 March 2016.
- Threatened Species Scientific Committee (2016b). Conservation advice, *Macroderma gigas*, Ghost bat. Australian Government Department of Environment, dated 5 May 2016.
- 360 Environment (2021). Vertebrate Fauna and Short-Range Endemic Invertebrate Fauna Assessment Of the Ashburton Infrastructure Project. Rev 1 dated September 2021 (360E 2021)