

PILBARA LEAF-NOSED BAT MONITORING PROGRAM

1. Introduction

Atlas Iron Limited (Atlas) has sought approval to develop their Mt Dove Direct Shipping Ore (DSO) Project (the Project) located in the Pilbara region of Western Australia, approximately 68 km south of Port Hedland. The Project has a disturbance footprint of approximately 219 ha and will involve the development of an open pit mine using conventional drill and blast, load and haul methods to extract the currently identified iron ore resource of approximately 2.3 Mt. This monitoring program forms part of the Significant Species Management Plan (SSMP) required under EPBC approval EPBC (2011/5848), specifically the following condition:

2. The person taking this action must prepare a Significant Species Management Plan for the approval of the Minister, that maximises the ongoing protection and long term conservation of EPBC Act listed threatened fauna species. The plan must address, but is not limited to, the following criteria:

d. A fauna monitoring program, including methodology, timing, scope, duration and reporting over the duration of the fauna monitoring program, to investigate EPBC Act listed threatened fauna species, including the following:

i. the success of the non-indigenous fauna control program and stock management program;

ii. the extent to which EPBC Act listed threatened fauna species colonise artificial habitat that will be constructed outside the Mt Dove project area. The monitoring of artificial habitat must be ongoing throughout the life of the mine and for 2 years subsequent to mine closure; and

iii. the extent to which a 20 metre buffer around Pilbara Leaf-nosed Bat caves is suitable for the continued use or re-colonisation of this species after mining.

e. Performance criteria and corrective actions; and

f. Reporting on milestones and compliance with this plan.

A report outlining the results of monitoring required by conditions **2 (d) (ii)** and **2 (d) (iii)** in this plan must be submitted to the department within one year of completion of the monitoring activity. The person taking the action cannot commence construction until the Significant Species Management Plan is approved. The approved Significant Species Management Plan must be implemented.

This monitoring program serves to address monitoring requirements for the Pilbara leaf-nosed bat (*Rhinonicteris aurantia* (Pilbara Form)). A separate monitoring program has been developed for the northern quoll (*Dasyurus hallucatus*) (Appendix 5 of the Significant Species Management Plan).

The Pilbara leaf-nosed bat is known to be sensitive to disturbance. As a result, Atlas has committed to a ground disturbance buffer of 20 m around Cave MD-AN-02 within the Mt Dove Project disturbance footprint, in which Pilbara leaf-nosed bats have been recorded.

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The objective of this monitoring program is to further the scientific knowledge of the response of the Pilbara leaf-nosed bat to disturbance, as opposed to guiding on-site environmental management. Monitoring will involve two stages:

- Disturbance monitoring, during initial clearing and ground works at Mt Dove to monitor the species response to disturbance adjacent to Cave MD-AN-02.
- Annual monitoring, to determine the persistence of the species at Mt Dove during and/or following operations.

2 Target Species

The Pilbara leaf-nosed bat (*Rhynonictis aurantia* Pilbara form) is listed as Vulnerable under the EPBC Act and listed as Schedule 1 under the WC Act. There are extensive knowledge gaps with respect to the biology and ecology of Pilbara leaf-nosed bats including distribution, movement patterns and dispersal capabilities.

The presence of the Pilbara leaf-nosed bat within the study area has been confirmed during two surveys (Outback Ecology 2010a, 2011a):

- During baseline surveys in 2010, Pilbara leaf-nosed bats were recorded in two caves (MD-AN-02, MD-AN-04) within Rocky Ridge habitat on Mt Dove and at an artificial water source (a stock water dam) 3 km to the south.
- During an exploration drilling monitoring program in 2011, Pilbara leaf-nosed bats were recorded on three separate occasions within cave MD-AN-02 on Mt Dove, although based on patterns of visitation it appears that this cave represents a transitory roost as opposed to a breeding roost (Outback Ecology 2010a).

3. Annual Monitoring

3.1 Purpose and scope

Annual monitoring of Pilbara leaf-nosed bats will be undertaken throughout the life of the Project and for 2 years subsequent to mine closure. Specific objectives of annual monitoring are to:

- Determine if a 20 m buffer around caves used by Pilbara leaf nosed-bats is suitable for the continued use of the cave during mining activities.
- Determine if a 20 m buffer around caves used by Pilbara leaf nosed-bats is suitable for the re-colonisation of this species after mining.

Monitoring will be undertaken by a suitable fauna specialist and in a manner similar to that conducted in accordance with Level 2 vertebrate fauna surveys (EPA, 2004; EPA and DEC, 2010) and survey guidelines for Australia's threatened bats (SEWPAC, 2010).

3.2 Survey Timing and Site Selection

Annual monitoring will involve monitoring bat activity at Cave MD-AN-02 for a period of two weeks each year.

The first monitoring event will be undertaken one week either side of the commencement of pre-stripping and removal of rocky habitat at Mt Dove, to measure the Pilbara leaf-nosed bats response to disturbance.

All future annual monitoring events will be undertaken between the months of February and March, following the wet season when bat activity is anticipated to be greatest.

3.3 Echolocation Recordings

A single echolocation recorder (Wildlife Acoustics SM2 Song Meter) will be set at ground level at the cave entrance. Bat echolocation recording will commence prior to dusk and will continue until dawn for a period of two weeks.

Bat echolocation recordings will be identified by a suitably qualified specialist using reference calls previously recorded in the Pilbara.

3.4 Reporting

The fauna specialist will report the results of the annual monitoring program to Atlas within three months of completion of the monitoring activity.

The monitoring report will confirm the presence or absence of Pilbara leaf-nosed bats during the monitoring event and discuss the effectiveness of the 20 m buffer around cave MD-AN-2 for

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continued use by Pilbara leaf-nosed bats during mining, and re-colonisation of the cave after mine closure.

Findings of the annual monitoring program will also be summarised in Atlas' Annual Environmental Report, which will be provided to DEC and SEWPAC within one year of the monitoring activity being conducted, along with the specialist report.

5 References

- EPA, 2004. Guidance for the Assessment of Environmental Factors: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia, No. 56. Environmental Protection Authority, Western Australia.
- EPA and DEC, 2010. EPA and DEC Technical Guide – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment. Environmental Protection Authority and Department of Environment and Conservation.
- OES, 2011. Atlas Iron Limited Mt Dove: Drilling Exploration Bat Monitoring. Report prepared for Atlas by Outback Ecology Services.
- SEWPAC, 2010. Survey guidelines for Australia's threatened bats. Australian Government Department of Sustainability, Environment, Water, Population and Communities.



LEGEND

- ▲ Monitoring site
- Track
- Project area
- Study area

Habitat

- Stony rise
- Rocky ridge
- Acacia shrubland on footslopes
- Acacia, spinifex on sandplain

Source:
 Study area, monitoring sites and fauna habitats from Outback Ecology.
 Project area and tracks from Atlas Iron Limited.
 Aerial imagery from Landgate.

Notes:
 Indee Station covers the entire extent of the map