

SIGNIFICANT SPECIES MANAGEMENT PLAN

Mt Dove DSO Project

May 2012

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coffey  **environments**
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1. INTRODUCTION

1.1 Project Overview

The Atlas Iron Limited (Atlas) Mt Dove DSO Project (the Project) is located approximately 68 km south of Port Hedland, in the Pilbara region of Western Australia (Figure 1).

The Project will involve the development of an open pit mine using conventional drill and blast, load and haul methods to extract the current iron ore resource of approximately 2.3 Mt over a mine life of two years. The Project includes establishment of two waste rock dumps, contractors' area and mine operations centre, which will include administration offices, accommodation camp and a run-of-mine (ROM) pad facility for crushing and screening of the direct shipping ore (DSO) product. No further processing of the product will be required.

1.2 Purpose

The Project has a disturbance footprint of approximately 219 ha across two project tenements and has the potential to affect a number of conservation significant terrestrial vertebrate species identified during comprehensive baseline biological surveys. The purpose of this significant species management plan (SSMP) is to manage impacts to conservation significant terrestrial vertebrate species to ensure that the Project is developed in an environmentally acceptable manner. This SSMP does not consider invertebrates (i.e., short-range endemic terrestrial invertebrates or subterranean fauna).

The objectives of this SSMP are to:

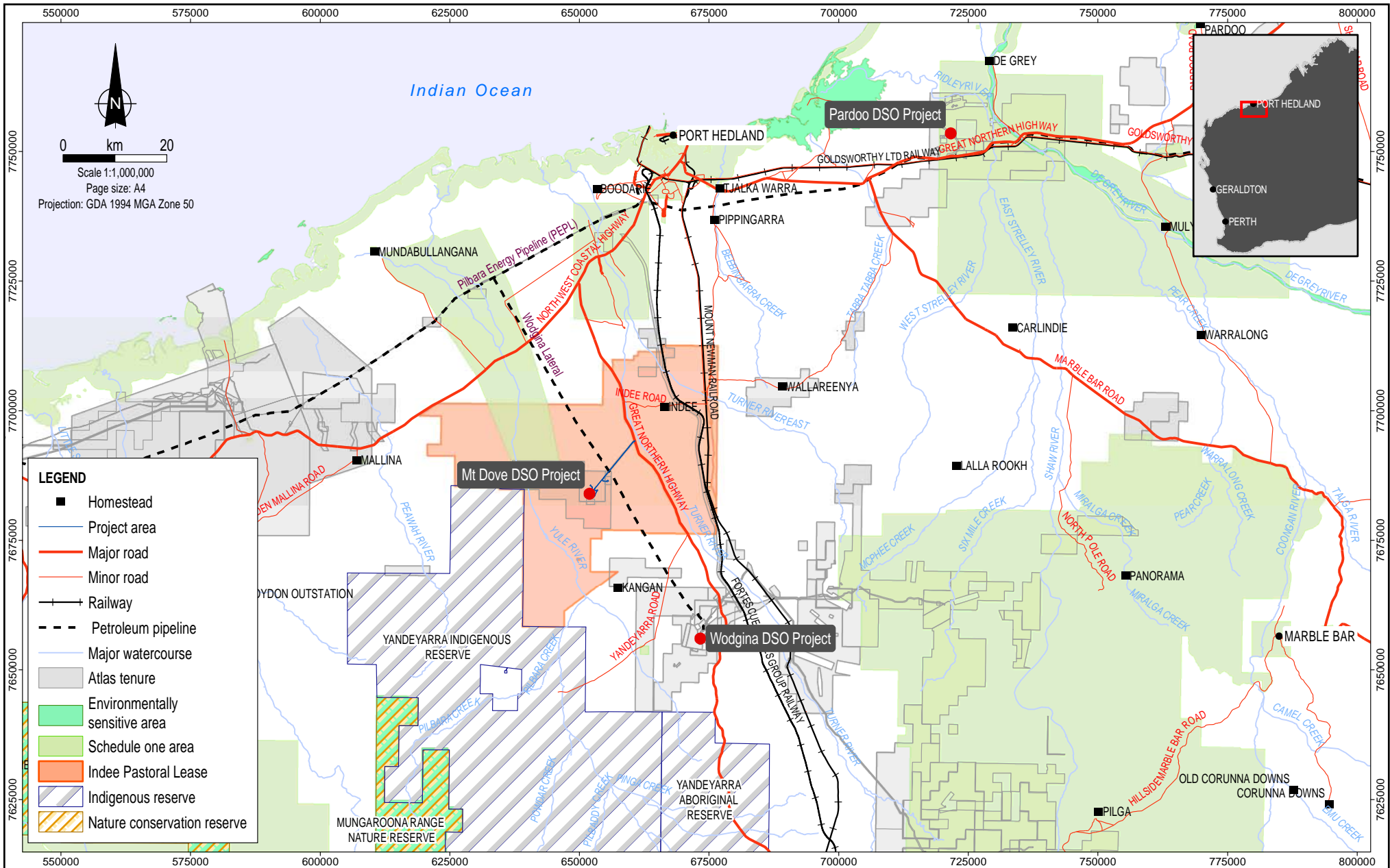
- Maintain an inventory of fauna species of conservation significance that have the potential to be affected by the Project.
- Manage or minimise impacts to conservation significant species.
- Monitor for potential impacts to conservation significant species.
- Detail the reporting requirements relating to conservation significant species.

1.3 Legislative and Approvals Context

Environmental legislation relevant to this management plan is discussed in more detail below and includes the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), the *Environmental Protection Act 1986* (WA), the *Wildlife Conservation Act 1950* (WA) and the *Mining Act 1978* (WA).

1.3.1 Commonwealth Legislation

Protection of matters of national environmental significance is provided by the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Actions likely to cause significant impact to matters of national environmental significance need to be assessed under the EPBC Act. The main authority under this Act is the Department of Sustainability, Environment, Water, Population and Communities (referred to as SEWPAC).



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Atlas

Mt Dove DSO Project

Locality and regional setting

Figure No: **1**

Nationally threatened species and threatened ecological communities listed under the EPBC Act are considered to be matters of national environmental significance. Migratory species listed under international conventions and agreements to which Australia is a signatory, are also protected under the EPBC Act. Definitions of the conservation categories for nationally threatened species, threatened ecological communities and migratory species are provided in Appendix 1.

While there are no threatened ecological communities known from Mt Dove, a number of threatened fauna species and migratory species are present or are likely to occur in the vicinity of the Project. As a result, the Project was referred to SEWPAC, for assessment under the EPBC Act and was deemed a controlled action by the SEWPAC on 25 March 2011 and set the level of assessment as 'assessment on preliminary documentation'. On the 13 January 2012 Atlas received Commonwealth conditional approval from the SEWPAC (EPBC 2011/5848).

This SSMP has been developed to satisfy the following condition attached to the Commonwealth approval:

- 2.** The person taking the 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.
 - a.** Implementation of measures to prevent mortality of EPBC Act listed threatened fauna species during construction;
 - b.** Implementation of measures to rehabilitate areas disturbed during mining, including methodology and a commitment to install the artificial Northern Quoll habitat outside the disturbance footprint, at Appendix A, prior to commencement of construction;
 - c.** Details of an exotic fauna control program and a stock management program. Including timeframes for implementation, target species and outcomes;
 - 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 on-going 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.

1.3.2 State Legislation

Environmental Protection Act 1986

The Environmental Protection Act 1986 is the primary legislation that governs environmental impact assessment and protection in Western Australia. The aim of this Act is to prevent, control and abate environmental pollution for the conservation, preservation, protection, enhancement and management of the environment. Authorities under this Act include the Department of Environment and Conservation (DEC) and the Environmental Protection Authority (EPA).

Approvals can be required under two parts of the Act: Part IV, Environmental Impact Assessment; and Part V, Environmental Regulation. Atlas is referring the Project to the EPA under Part IV of the Act.

Atlas referred the project to the EPA on 29 September 2011 due to the presence of conservation significant fauna, as well as a previously unidentified pseudoscorpion species. On 7 December 2011, the EPA determined that the Project would not be assessed under Part IV of the Act as it was believed the Project could be adequately assessed under Part V of the Act.

Part V of the Act also specifies that the clearing of native vegetation in Western Australia requires a permit. The clearing provisions of this Act are described in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

Wildlife Conservation Act 1950

The Wildlife Conservation Act 1950 provides for the protection of native flora and fauna if they are under identifiable threat of extinction, are rare, or are generally in need of protection. The main authority under this Act is the DEC.

Threatened flora and fauna are listed in government gazettes as declared Rare Flora and Specially Protected Fauna. Definitions of the various conservation categories are provided in Appendix 1.

No declared Rare Flora is known from Mt Dove; however, Specially Protected Fauna (Chapter 2) are present or have the potential to occur.

Mining Act 1978

The Mining Act 1978 regulates mineral exploration and mining in Western Australia. The main authority under this Act is the Department of Mines and Petroleum (DMP) (formerly the Department of Industry and Resources).

Under this Act, the DMP prescribes environmental protection conditions on mining tenements and assesses mining proposals, which must outline the potential environmental impacts of a project.

1.4 Terminology and Definitions

1.4.1 Conservation Significance

For the purposes of this SSMP, conservation significant species are defined as species listed under Commonwealth or State legislation or listed as priority species by the DEC, or considered by qualified specialists to be locally important.

Commonwealth and State-listed species are discussed in Section 3 and related conservation category definitions are provided in Appendix 1.

Species of concern (i.e., those species that are poorly known, uncommon, rare or otherwise threatened) that are not listed under legislation may be prioritised by the DEC. Their conservation significance is reviewed by the DEC on a regular basis. Definitions for priority fauna are provided in Appendix 1.

Species are considered to be of local conservation significance if:

- They are previously undescribed or potentially new species.
- They are recorded on the edge of their known range.
- They are important for preserving biodiversity at a genetic level (for instance, they are an isolated subset of a generally widespread species).
- They are endemic to an area or their range is restricted.
- They are sensitive to impact.

1.4.2 Likelihood of Occurrence

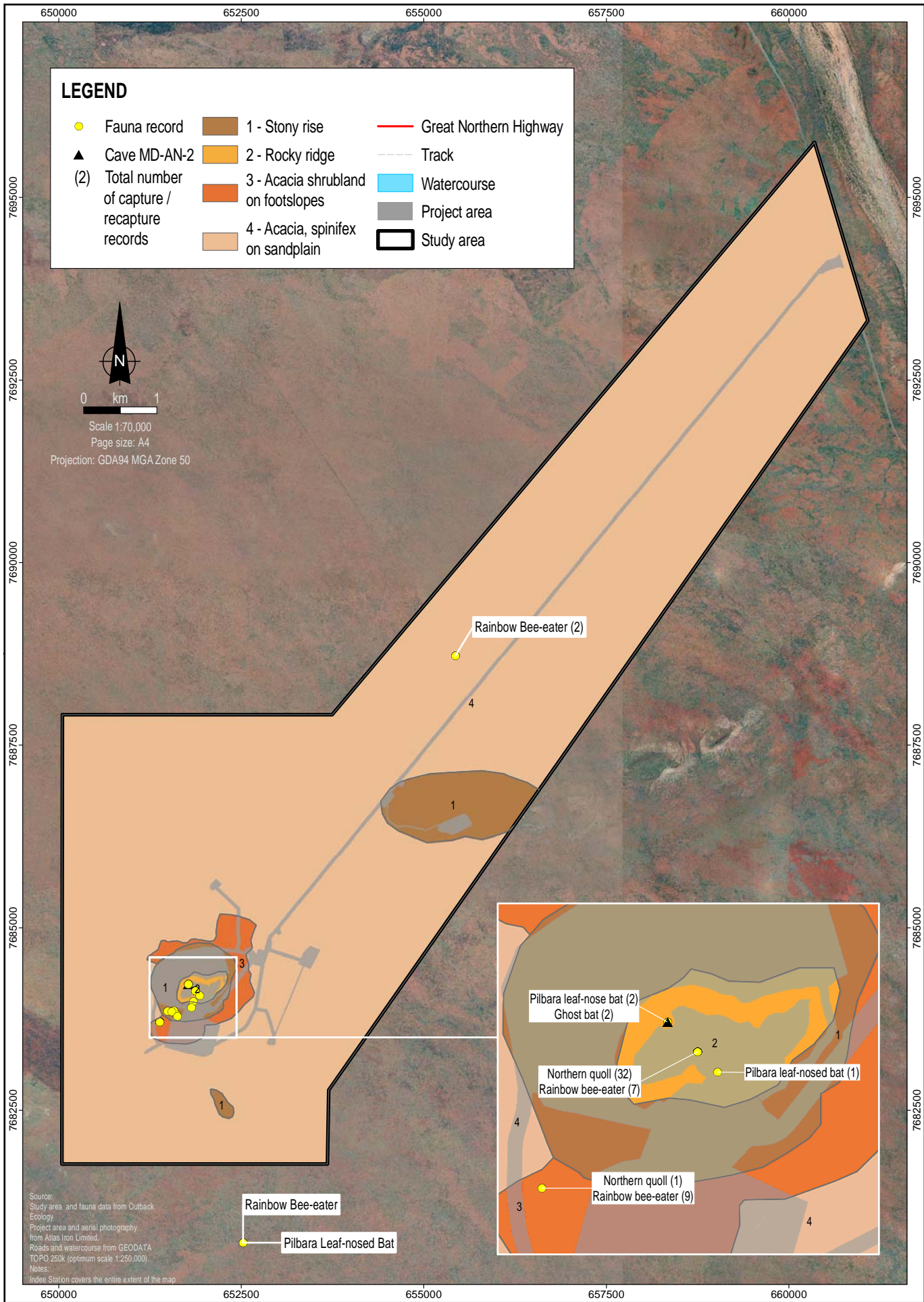
The following definitions of likelihood of occurrence are used in this SSMP:

- Present. Species has been recorded in the study area.
- Likely. Species is present outside but near the study area. Suitable habitat is present in or near the Project or study area.
- Potential. Species is present in the region. Suitable habitat may be present in or close to the Project or study area. This also includes species that may occur as vagrants.
- Unlikely. No recent or local records of species. Suitable habitat absent in or close to the Project or study area.

1.4.3 Project Area and Study Area

The Project area is defined as the area of ground disturbance, as depicted in Figure 2.

The study area is defined as the area over which fauna surveys have been conducted, as depicted in Figure 2.



LEGEND

- Fauna record
- ▲ Cave MD-AN-2
- (2) Total number of capture / recapture records
- 1 - Stony rise
- 2 - Rocky ridge
- 3 - Acacia shrubland on footslopes
- 4 - Acacia, spinifex on sandplain
- Great Northern Highway
- - - Track
- Watercourse
- Project area
- Study area



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Source:
Study area and fauna data from Outback Ecology.
Project area and aerial photography from Atlas Iron Limited.
Roads and watercourse from GEODATA TOPO 250k (optimum scale 1:250,000).
Notes:
Indee Station covers the entire extent of the map

2. ROLES AND RESPONSIBILITIES

Atlas is committed to managing its activities in an environmentally and socially responsible manner, as reflected in Atlas's Environmental and Social Policy. This policy is based on the recognition that mining projects affect the environment. Through prudent planning and excellence in management most significant impacts can be avoided or mitigated.

Atlas roles and responsibilities for the implementation of this SSMP are outlined in Table 1.

Table 1 Atlas roles and responsibilities for SSMP implementation

Role	Responsibility
Environmental Superintendent	<ul style="list-style-type: none"> • Implement and maintain the SSMP. • Review the SSMP as per the review period nominated in Section 7.2..
Environmental Advisor	<ul style="list-style-type: none"> • Implement monitoring programs. • Maintain monitoring records. • Deliver monitoring data to the SEWPAC and DEC. • Implement and deliver education and awareness training program to personnel, contactors and visitors. • Record all sightings of or incidents involving conservation significant fauna. • Assess ground disturbance and access applications. • Ensure all personnel involved fauna surveys are licensed and/or qualified.
Construction and Operation managers	<ul style="list-style-type: none"> • Monitor SSMP implementation by site personnel and contractors. • Participate in compliance audits and inspections.
All personnel, contractors and visitors	<ul style="list-style-type: none"> • Undertake education and awareness training before commencing duties onsite. • Implement SSMP where relevant in daily activities. • Report all sightings of or incidents involving conservation significant fauna.

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3. FAUNA VALUES

This chapter provides an overview of the relevant baseline studies conducted and the existing terrestrial vertebrate fauna values associated with the Project.

In 2010, Outback Ecology Services (OES) was commissioned to conduct habitat mapping and a terrestrial vertebrate fauna assessment for the Project. A reconnaissance survey preceded two detailed fauna surveys over the Mt Dove study area. The detailed surveys were conducted in autumn and spring as Level 2 fauna surveys, in accordance with EPA Guidance Statement No. 56 (EPA, 2004).

A total of four broad fauna habitats were identified over the study area on the basis of location, landform, substrate, vegetation community and the vertebrate fauna habitat available. These habitats were Acacia shrubland on footslopes; Acacia, spinifex on sandplain; rocky ridge; and stony rise (OES, 2011Bb). These habitats are mapped on Figure 2 in Section 1.4.3.

With the exception of the rocky ridge habitat, the fauna habitats identified within the study area are widely represented outside the study area and throughout the Chichester sub-bioregion. The rocky ridge habitat associated with Mt Dove is isolated and of limited extent in the study area, and represents significant fauna habitat. The nearest equivalent habitat is located approximately 12 km to the south. Acacia shrubland on footslopes is also of limited extent in the study area; however, this habitat represents a transition between stony rise and Acacia, spinifex on sandplain habitat and is of lesser importance to conservation significant species.

A total of 92 vertebrate fauna species were recorded during the autumn and spring 2010 surveys, comprising 23 mammals, 40 birds and 29 reptile species. No amphibians were recorded (OES, 2011b).

A search of relevant State and Commonwealth level literature and databases identified 28 vertebrate fauna species of conservation significance having potential to occur in the vicinity of the Project area. A list of these species, and their likelihood of occurrence within the study area and Project area is provided in Table 2. The fauna survey sites where conservation significant fauna species have been recorded are shown on Figure 2 in Section 1.4.3.

Table 2 Conservation significant species in the Mt Dove study area

Scientific Name	Common Name	Conservation Status ¹		Likelihood of Occurrence
		EPBC Act	WC Act	
Reptiles				
<i>Liasis olivaceus barroni</i>	Pilbara olive python	VU	S1	Potential
<i>Aspidites ramsayi</i>	Woma or Ramsay's python	–	S4	Likely
<i>Ramphotyphlops ganei</i>	Unnamed blind snake	–	P1	Potential
<i>Ctenotus nigrilineatus</i>	Pin-striped finesnout ctenotus	–	P2	Unknown
<i>Ctenotus uber johnstonei</i>	Spotted ctenotus	–	P2	Unknown

Table 2 Conservation significant species in the Mt Dove study area (cont'd)

Scientific Name	Common Name	Conservation Status ¹		Likelihood of Occurrence
		EPBC Act	WC Act	
Birds				
<i>Cacatua leadbeateri</i>	Major Mitchell's cockatoo	–	S4	Unlikely
<i>Falco peregrinus</i>	Peregrine falcon	–	S4	Likely
<i>Falco hypoleucos</i>	Grey falcon	–	P4	Likely
<i>Ardeotis australis</i>	Australian bustard	–	P4	Present
<i>Burhinus grallarius</i>	Bush stone-curlew	–	P4	Likely
<i>Neochmia ruficauda subclarescens</i>	Star finch (western)	–	P4	Likely
<i>Merops ornatus</i>	Rainbow bee-eater	M	–	Present
<i>Polytelis alexandrae</i>	Princess parrot	VU	P4	Unlikely
<i>Numenius madagascariensis</i>	Eastern curlew	–	P4	Unlikely
<i>Phaps histrionica</i>	Flock bronzewing	–	P4	Unlikely
<i>Apus pacificus</i>	Fork-tailed swift	M	–	Unlikely
Mammals				
<i>Dasyurus hallucatus</i>	Northern quoll	EN	S1	Present
<i>Dasyercus cristicauda</i>	Crest-tailed mulgara	VU	S1	Unlikely ²
<i>Dasyercus blythi</i>	Brush-tailed mulgara	–	P4	Likely
<i>Macrotis lagotis</i>	Bilby	VU	S1	Potential
<i>Rhinonictes aurantia</i>	Pilbara leaf-nosed bat	VU	S1	Present
<i>Sminthopsis longicaudata</i>	Long-tailed dunnart	–	P4	Potential
<i>Lagorchestes conspicillatus</i>	Spectacled hare-wallaby	–	P3	Likely
<i>Macroderma gigas</i>	Ghost bat	–	P4	Present
<i>Leggadina lakedownensis</i>	Lakeland downs mouse	–	P4	Likely
<i>Mormopterus cobourgiana</i>	Mangrove freetail-bat	–	P1	Unlikely
<i>Pseudomys chapmani</i>	Western pebble-mound mouse	–	P4	Likely

1. Conservation statuses are defined in Appendix 1.

2. Recent Consultation with the WA Museum has suggested that all Mulgara in WA (definitely in the Pilbara) are probably blythi, not cristicauda.

Outback Ecology Services identified a further 12 species as locally significant at or around Mt Dove that are not included in the above list of species, including those that are endemic to the area, have restricted or fragmented ranges or are at the extreme limits of their known distribution. These species are:

- Rothschild's rock-wallaby (*Petrogale rothschildi*).
- Pilbara death adder (*Acanthophis wellsii*).
- Rufous whipsnake (*Demansia rufescens*).
- Yellow-spotted Pilbara gecko (*Diplodactylus savagei*).
- Pilbara crevice-skink (*Egernia pilbarensis*).
- *Delma elegans*.

- *Lucasium wombeyi*.
- *Ctenotus rubicundus*.
- Pilbara rock monitor (*Varanus pilbarensis*).
- Pilbara mulga monitor (*Varanus bushi*).
- *Ramphotyphlops pilbarensis*.
- Glandular toadlet (*Uperoleia glandulosa*).

Although not protected under legislation discussed in Section 1.3, for the purposes this SSMP these species will also be considered as conservation significant fauna.

Further information relating to each conservation significant species listed in this section is provided in Appendix 2.

Significant Species Management Plan
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4. POTENTIAL IMPACTS

Each stage of the Project (construction, operation and closure/rehabilitation) has the potential to affect the abundance, distribution and condition of conservation significant fauna within the Project area and surrounds. Potential impacts of the Project on terrestrial fauna of conservation significance are:

- Loss and/or degradation of regional representation of fauna habitat resulting in a direct loss of species, fragmentation effects and reduced breeding and foraging habitat.
- Altered conservation status of terrestrial vertebrate fauna species and regional conservation significance of populations.
- Injuries to and mortalities of terrestrial vertebrate fauna caused by interactions with vehicles, infrastructure, machinery and the workforce.
- Reduced diversity or abundance of foraging resources due to an altered hydrological regime.
- Alteration in behaviour of terrestrial vertebrate fauna due to dust, noise, vibration and light emissions.
- Increased presence of non-indigenous species due to introduction of workforce and vehicles, inappropriate waste collection and storage practices, and inadequate rehabilitation of disturbed land, resulting in terrestrial vertebrate fauna mortality and/or competition for resources.
- Increased fire potential from the presence of human activity in the area, resulting in the modification or loss of fauna habitat and conservation significant terrestrial vertebrate fauna.
- Loss and/or degradation of terrestrial vertebrate fauna habitat due to increased presence of weed species.

Significant Species Management Plan
Mt Dove DSO Project

5. MANAGEMENT MEASURES

This chapter discusses the management measures in place to control and mitigate impacts to conservation significant fauna from the Project.

Management measures have been developed and grouped into two levels:

- **Standard Management.** A list of standard management measures developed and implemented to manage and mitigate impacts to all conservation significant terrestrial vertebrate fauna.
- **Species-specific Management.** A list of management measures developed and implemented for any terrestrial vertebrate fauna species that has been confirmed as present in the Project area and is also listed under the EPBC Act and/or Schedule 1, 2, 3 or 4 of the WC Act.

Atlas's Environmental Superintendent will review the species managed under the species-specific management level during the SSMP annual review. Should a conservation significant terrestrial vertebrate fauna species not previously confirmed as present within the Project area be identified within the Project area, the SSMP would then be updated to include that species under species-specific management.

5.1 Standard Management

This section details the standard management measures relevant to all conservation significant terrestrial vertebrate fauna. These management measures have been developed in consideration of baseline studies (Section 3), identified potential Project impacts (Section 4), specialist advice and current industry practices.

5.1.1 Planning and Design

The following planning and design management measures will be implemented where practicable:

- Clearing in/of sensitive fauna habitats including scree slopes, ridges, outcrops, gullies and crevices will be kept to the minimum necessary for safe construction and operation of the Project.
- The Environmental Advisor – Mt Dove Operations will maintain a site database and maps detailing:
 - Conservation significant species and habitat.
 - Impact exclusion zones (i.e., around the bat cave MD-AN-02).
 - Cleared areas.
 - Rehabilitated areas.
- Education and awareness training will identify conservation significant fauna and habitat and discuss relevant management measures and employee responsibilities.

5.1.2 Construction and Operations

To protect conservation significant fauna and habitat, the following management measures will be implemented where practical:

- Vehicle speed limits will be imposed and enforced on all Project area roads. The limit on the main access road will be 60 km/h, decreasing to 40 km/h on all other subsidiary roads.

- Off-road driving will be prohibited unless otherwise authorised by senior management.
- Animals will not be fed, harassed, captured, killed or otherwise disturbed unless authorised by the Environmental Advisor.
- Domestic pets will be prohibited on site.
- Where required, fauna will be handled and transported in accordance with the procedures outlined in the DEC guidelines for the transport and temporary holding of wildlife (Appendix 3).
- Water sources, administration facilities and camps will be appropriately managed to minimise fauna (and feral animal) access. Management measures may include the installation of fences, the covering of bins, 'good housekeeping', etc.
- All fauna mortalities and injuries will be reported to the Environmental Advisor within 24 hours and recorded within Atlas's incident reporting system.
- Education and awareness training as part of the site induction process will identify conservation significant fauna and habitat and outline incident reporting requirements in the event of a fauna interaction. Site inductions will be required for all personnel on site.
- Feral animal sightings will be reported to the Environmental Advisor
- Significant fauna species fact sheets will be available to Atlas personnel and contractors.
- Noise, dust and light emissions will be controlled to avoid excessive disturbance to conservation significant fauna, including directing lights to working areas and shielding them to reduce glow and using conventional dust suppression techniques.
- Blasting operations will only occur during the daytime to avoid impacts to fauna species.
- A fire prevention and control strategy will be developed and implemented.
- Rehabilitation and decommissioning of the minesite will be conducted as outlined in the Mine Closure and Rehabilitation Plan, which is a requirement of the Department of Mines and Petroleum's mining approval. The Mine Closure Plan is separate from this SSMP as it is a living document, being revised throughout the life of the project, from pre-feasibility study phase through to relinquishment back to the state upon achievement of completion criteria. The Mine Closure Plan will include:
 - Fauna habitat rehabilitation criteria, including the aim of recreating northern quoll habitat where practicable.
 - Undertake progressive site rehabilitation over the life of the Project.
 - Use of provenance seed preferentially sourced from the immediate area in rehabilitation.

5.1.3 Non-Indigenous Fauna Monitoring and Control Program

Non-indigenous fauna have the potential to affect conservation significant species primarily through predation. Non-indigenous predators recorded at Mt Dove consisted of feral cats, wild dogs and foxes (OES, 2011b).

In accordance with conditions **2c.** and **2d.i.** of the Project's EPBC Act approval (EPBC 2011/5848), Atlas will undertake a non-indigenous fauna monitoring and control program.

The objective of the Non-Indigenous Fauna Control Program is to reduce predation pressure on conservation significant fauna within the Mining Lease.

The Non-indigenous Fauna Control Program will be undertaken in consultation with DEC and will involve the engagement of a suitably qualified/licensed contractor within 12 months of the commencement of disturbance to undertake a cull of predatory non-indigenous fauna within the Mining Lease.

The requirement for further control of non-indigenous fauna in subsequent years of operation will be determined based on the outcome of the annual Non-Indigenous Animal Monitoring Program.

The Non-Indigenous Animal Monitoring Program will be undertaken on an annual basis to identify the ongoing presence of feral cats, wild dogs and foxes within the mining lease and determine the effectiveness of the Non-Indigenous Fauna Control Program. This will involve the review of sightings and road kill incidents captured in Atlas' incident reporting system and records of non-indigenous fauna trapped or observed during the Northern Quoll Monitoring Program (discussed in Section 5.2.1).

Should the Non-Indigenous Animal Monitoring Program confirm the ongoing persistence of feral cats, wild dogs or foxes within the mining lease, the Non-indigenous Fauna Control Program will be repeated.

Outcomes of the Non-Indigenous Fauna Control Program and Non-Indigenous Monitoring Program will be reported annually in Atlas' Annual Environmental Report, and will be made available to the DEC and SEWPAC.

5.1.4 Stock Management Program

The primary objective of the stock management program is to mitigate impacts to the pastoralist from mining operations, not to manage impacts of stock on conservation significant fauna. This is because Atlas has no power to make commitments on behalf of the pastoralist (i.e., commit to stock exclusion).

Atlas has an executed agreement with Indee Pastoral Station and subject to ongoing consultation with pastoralists, has agreed to stock management measures within the mining lease, which include the following measures:

- Inductions and training for staff and contractors to ensure gates are left in the state in which they were found (i.e. open/closed).
- Vehicle speed restrictions.
- Fencing and livestock grids where appropriate.
- Ensuring water bores are maintained to prevent leaks, thus preventing attraction of fauna including cattle
- wastes stored appropriately, to avoid attracting stock (and other non indigenous fauna).

Atlas will review stock related incidents captured in Atlas' incident reporting system on an annual basis to identify impacts to the pastoralist from operations and determine the effectiveness of the Stock Management Program.

A review of the stock management measures will be triggered if there is considerable number of stock related incidents or where the number of stock within the mining area is considered to be unacceptable.

5.1.5 Weed Management

Introduced plants (weeds) have the potential to affect conservation significant species. To minimise the introduction and spread of weeds, the following management measures will be implemented:

- Weed management is regulated at the State level via conditions of the native vegetation clearing permit and as commitments in the mining approval. Atlas has liaised with the Department of Mines to develop suitable management measures for weed species including:
 - ✓ Separate stockpiling of soil from areas known to be infested with Kapok.
 - ✓ Regular visual inspections to assess new or worsening weed infestations, including operational areas and stockpiled soils. As a minimum, these inspections will be conducted opportunistically during daily / weekly site inspections by the environmental advisor.
 - ✓ Based on above, targeted weed eradication programs will be conducted in consultation with the Department of Environment and Conservation.
- A vehicle and equipment hygiene procedure will be implemented for vehicles and equipment arriving at and departing from the Project area. Atlas' equipment hygiene operational procedure in use at current operational sites will be implemented at Mt Dove. The key components of the procedure are:
 - ✓ Training of staff to identify where to inspect and what to look for.
 - ✓ Equipment must be visually inspected to confirm that it is free of mud, soil, seeds etc prior to entry to site
 - ✓ Equipment failing the visual check must be washed down then re-inspected.
- Atlas' Ground Disturbance and Topsoil Management operational procedure in use at current operational sites will be implemented at Mt Dove. This procedure assists in ensuring vehicle access and vegetation clearing is restricted to approved disturbance boundaries, thus reducing the likelihood of spreading weeds.
-
- Disturbed areas will be rehabilitated as soon as practicable. This will assist in the avoidance of colonisation by weed species and dust generation.

5.2 Species-Specific Management

This section details management specific to species listed under the EPBC Act which have been confirmed to be present within the Project area; namely the northern quoll (*Dasyurus hallucatus*) and Pilbara leaf-nosed bat (*Rhinonicteris aurantia*).

5.2.1 Northern Quoll (*Dasyurus hallucatus*)

The northern quoll has been recorded at various sites within rocky ridge habitat in the Project area during baseline investigations (see Figure 2 in Section 1.4.3). In addition to the implementation of the standard management measures discussed in Section 5.1, Atlas is committed to implementing a number of species-specific management measures for the northern quoll.

Based on the Preliminary Documentation submitted to SEWPAC as part of the Project's referral under the EPBC Act (OES, 2011a) and associated consultation with the DEC and SEWPAC, the following management measures specific to the northern quoll will be implemented:

- Atlas will create artificial northern quoll habitat through the placement of suitable material (e.g., oversized waste rock) outside the Project area. A detailed scope of works is attached as Appendix 4.
- Exclusion trapping for northern quolls will be undertaken on rocky ridge habitat immediately prior to clearing. Trapped quolls will be released in the artificial rocky ridge habitat outside the Project area. Exclusion trapping methods are detailed in Appendix 5.
- Monitoring the Mt Dove northern quoll population using techniques consistent with SEWPAC and DEC guidelines to further the scientific understanding of species response to disturbance. The northern quoll monitoring program is detailed in Appendix 5.
- Education and awareness training will identify conservation significant fauna and habitat, and discuss relevant management measures and employee responsibilities, with specific detail on the northern quoll.
- Signposts will be strategically positioned along roads that pass through potential northern quoll habitat to alert drivers to the presence of northern quolls.
- Night-time vehicle movements will be restricted to minimise vehicles strikes with northern quolls.
- Rehabilitation and decommissioning of the minesite will be conducted as outlined in the Mine Closure and Rehabilitation Plan, which will include the aim of recreating northern quoll habitat where practicable.

5.2.2 Pilbara Leaf-nosed Bat (*Rhonicteris aurantia*)

The Pilbara leaf-nosed bat has been recorded within rocky ridge habitat in the Project area (see Figure 2 in Section 1.4.3). In addition to the implementation of the standard management measures discussed above, Atlas is committed to implementing a number of species-specific management measures for the Pilbara leaf-nosed bat

Based on Preliminary Documentation submitted to SEWPAC as part of the Project's referral under the EPBC Act (OES, 2011a), the following management measures specific to the Pilbara leaf-nosed bat will be implemented:

- A 20 m buffer around cave MD-AN-02 will be retained to protect Pilbara leaf-nosed bat habitat from direct disturbance during mine operations and provide opportunity for the return of the species following mine closure.
- The location of cave MD-AN-02 will be clearly demarcated on mine plans. Working boundaries will be verified prior to ground disturbance to ensure sensitive habitats are avoided as intended in the mine plan.
- Education and awareness training will identify conservation significant fauna and habitat and discuss relevant management measures and employee responsibilities, with specific detail on the Pilbara leaf-nosed bat and cave MD-AN-02.

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- Pilbara leaf-nosed bats at Mt Dove will be monitored using techniques consistent with SEWPAC and DEC requirements and guidelines to further the scientific understanding of the species' response to disturbance. This monitoring program is detailed in Appendix 6.

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6. PERFORMANCE CRITERIA AND CORRECTIVE ACTIONS

Performance criteria for this SSMP are provided in Table 3. The objective of the SSMP is to maximise the ongoing protection and long term conservation of EPBC Act listed threatened fauna species in the vicinity of Mt Dove. Should the performance criteria not be met, corrective actions will be implemented.

Table 3 Performance criteria and corrective actions for conservation significant fauna

Key Performance Indicator	Actions
No incidents or mortalities of the Pilbara leaf nosed bat in the Project area	<ul style="list-style-type: none"> Review likely cause of incident Report to relevant Commonwealth and State agencies Review Pilbara leaf-nosed bat monitoring program, consider increasing frequency of monitoring to twice per annum.
No incidents or mortalities of Northern Quoll in the Project area	<ul style="list-style-type: none"> Review likely cause of incident Review procedures Report to relevant Commonwealth and State agencies. Review Northern Quoll monitoring program, consider incorporating radio-tracking into annual monitoring program or increasing monitoring frequency. •relevant Commonwealth and State agencies
No reduction in the abundance of conservation significant fauna species in the Project area caused by vehicle strike.	<ul style="list-style-type: none"> Conduct incident investigation to determine cause. Review speed limits and night time driving procedures. Review number of and locations of fauna signposts. Consider further training or re-running the education and awareness training in fauna conservation.
No ground disturbance beyond the approved Project footprint.	<ul style="list-style-type: none"> Conduct incident investigation to determine cause.. Report to relevant Commonwealth and State agencies Retrain personnel in ground disturbance protocols. Undertake corrective rehabilitation. Consider improvements to the demarcation of areas approved to be cleared.
No unauthorised access to MD-AN-02 exclusion zone.	<ul style="list-style-type: none"> Conduct incident investigation to determine cause. Review the need for barriers to exclusion zone (e.g., fencing). Review training and induction programs.
No records of introduced predators in the Project area.	<ul style="list-style-type: none"> Identify likely cause(s) of incident. Review waste management protocols. Retrain personnel in relevant management practices. Implement exotic fauna control program in consultation with DEC. Review the exotic fauna management measures within this SSMP.
No Project-related fires occurring outside the Project area.	<ul style="list-style-type: none"> Identify likely cause of incident. Review fire prevention and control management strategy. Retrain personnel and contractors.
Minimise predation pressures on listed species in the Mt Dove project area	If introduced predators are observed on site, conduct exotic fauna control program in consultation with DEC

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7. AUDITING AND REVIEW

7.1 Audits

The Environmental Superintendent will be responsible for ensuring a compliance audit against the requirements of this SSMP is conducted every six months over the life of the Project.

7.2 Reviews

Atlas is committed to an initial review of the SSMP once the Project has received environmental approval. The SSMP will then be reviewed on an annual basis. All reviews will consider:

- Outcomes of fauna monitoring programs.
- Changes to the conservation status of fauna species.
- Specialist advice and the stakeholder consultation.
- Implementation and effectiveness of management measures and monitoring programs.
- Performance indicators and any corrective actions.
- Changes to relevant legislation, policy, guidelines, management plans and industry practices.

The initial review will also make any amendments to the SSMP in order to comply with any conditions that may be placed on the Project's approval.

A number of triggers may also result in the immediate review of the SSMP, including:

- Recorded observations of a conservation significant species listed under the EPBC Act and/or Schedule 1, 2, 3 or 4 of the WC Act previously not confirmed to be present within the Project area. Species-specific management would need to be developed for these species.
- Incident report of a death/injury to any conservation significant fauna.

Review types are summarised in Table 4.

Table 4 Summary of SSMP review types

Review Type	Review Triggers
Initial	<ul style="list-style-type: none"> • Upon receipt of environmental approval for Project.
Annual	<ul style="list-style-type: none"> • Twelve months after the last initial or annual review.
Immediate	<ul style="list-style-type: none"> • Injury to conservation significant fauna is recorded. • Death of conservation significant fauna is recorded. • Conservation significant fauna not previously recorded in Project area is first recorded in Project area.

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8. REPORTING

This section provides a summary of Atlas reporting requirements under this SSMP.

8.1 Incident Reporting

All sightings, injuries and mortalities of conservation significant fauna, non-indigenous fauna and stock within the Project area will be reported to the Environmental Advisor within 24 hours, in accordance with the incident reporting procedures. All records will be entered into a significant species database and summaries will be included in Atlas's annual environmental report (AER).

8.2 Fauna Specialist Reports

The fauna specialist conducting monitoring for conservation significant species for which species-specific management has been implemented will report to Atlas on each monitoring event. These specialist reports will be attached to, and summarised within that years AER.

8.3 Annual Environmental Report

The AER will report on the results of the following monitoring programs:

- Northern quoll monitoring program (detailed in Appendix 5).
- Pilbara leaf-nosed bat program (detailed in Appendix 6).
- Non-indigenous fauna monitoring program (detailed in Section 5.1.3).
- Stock management program (detailed in Section 5.1.4).

The AER will also provide a summary of conservation significant fauna sightings, injuries and mortalities within the project area, as recorded by Atlas incident reporting system, as well as performance in accordance with the objectives, indicators and actions listed in Table 4.

Changes to this SSMP require approval by the Minister. Such changes will also be noted in the AER. The AER will be published on the Atlas website within 3 months of every 12 month anniversary of the commencement of the Project as required by condition 8 of the Project's EPBC Act approval (EPBC 2011/5848) and proof of publication will be provided to SEWPAC.

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9. GLOSSARY

Abbreviations

AER annual environmental report

Cwth Commonwealth

DEC Department of Environment and Conservation (Western Australia)

DMP Department of Mines and Petroleum (Western Australia)

EPA Environmental Protection Authority

SEWPAC Department of Sustainability, Environment, Water, Populations and Communities
(Commonwealth)

SSMP significant species management plan

WA Western Australia

Symbols and Units of Measure

ha hectare

km kilometre

Mt million tonne

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10. REFERENCES

Publications

- EPA. 2004. Guidance Statement No. 56. Environmental Protection Authority. Perth, Western Australia.
- OES. 2011a. Mt Dove DSO Project Preliminary Documentation. August. Report prepared by Outback Ecology Services for Atlas Iron Ltd. Jolimont, Western Australia.
- OES. 2011b. Mt Dove DSO Project Vertebrate Fauna Assessment. August. Report prepared by Outback Ecology Services for Atlas Iron Ltd. Jolimont, Western Australia.

Legislation and Regulations

- Environment Protection and Biodiversity Act 1999 (Cwlth).
- Environmental Protection Act 1986 (WA).
- Environmental Protection (Clearing of Native Vegetation) Regulations 2004.
- Environmental Protection Regulations 1987 (WA).
- Wildlife Conservation Act 1950 (WA).
- Mining Act 1978 (WA).

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Appendix 1

Definitions of conservation significance status for flora and fauna

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Appendix 2

Biological and ecological information on conservation significant species

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Appendix 3

DEC guidelines for the transport and temporary holding of wildlife

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Appendix 4

Northern quoll artificial habitat scope of work

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Appendix 5

Northern quoll monitoring program

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Appendix 6

Pilbara leaf-nosed bat monitoring program

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