



PILBARA IRON ORE AND INFRASTRUCTURE PROJECT

**Chichester Operations
Fauna Management Plan**

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TABLE OF CONTENTS

1.	INTRODUCTION	4
1.1	PROJECT OVERVIEW	4
1.2	BACKGROUND.....	5
1.3	PURPOSE.....	5
1.4	SCOPE.....	7
1.5	POTENTIAL ENVIRONMENTAL IMPACTS.....	7
1.6	OTHER RELEVANT DOCUMENTS.....	8
1.7	STAKEHOLDER CONSULTATION	9
2.	APPLICABLE LEGISLATION	10
3.	ROLES AND RESPONSIBILITY	11
4.	ENVIRONMENTAL MANAGEMENT.....	12
4.1	ADDITIONAL FAUNA SURVEYS	13
4.2	CONTROL OF FERAL ANIMALS	14
4.3	MINIMISE IMPACTS ON FAUNA	15
5.	TRAINING AND AWARENESS.....	18
6.	AUDITS AND INSPECTIONS.....	19
7.	REVIEW.....	20
8.	CONSOLIDATED MANAGEMENT ACTIONS	21
9.	REFERENCES	23



LIST OF TABLES

Table 1:	Requirements of Ministerial Statements 707 and 721	6
Table 2:	Relevant Legislation and its Application	10
Table 3:	Roles and Responsibilities.....	11
Table 4:	Summary of Management Actions in this Plan.....	21

LIST OF FIGURES

Figure 1	Regional Project Location
Figure 2	Interim Biogeographic Regionalisation for Australia – Pilbara Region

LIST OF APPENDICES

Appendix A	Fauna of Conservation Significance Recorded or Likely to Occur in the Chichester Operations Area
Appendix B	Significant Fauna Descriptions, Habitat and Relocation Potential



1. INTRODUCTION

1.1 PROJECT OVERVIEW

Fortescue Metals Group Limited (Fortescue) has commenced operation of the Pilbara Iron Ore and Infrastructure Project (the Project), which consists of several iron ore mines and associated rail and port infrastructure in the Pilbara region of Western Australia. The primary environmental approvals for the project have been obtained in four stages:

- Stage A consisting of an iron ore export facility at Port Hedland and a north-south railway from the central Pilbara to Port Hedland (approved under Ministerial Statement 690);
- Stage B consisting of two iron ore mines in the Eastern Pilbara (Christmas Creek and Mindy Mindy) and an east-west spur rail line connecting to the Stage A railway (approved under Ministerial Statement 707);
- Cloudbreak iron ore mine west of the Christmas Creek area (approved under Ministerial Statement 721 and Commonwealth Assessment EPBC 2005/2205); and
- Port facility upgrade of the Third Berth at Anderson Point, Port Hedland: Dredging and Wharf Construction (approved under Ministerial Statement 771).

The Cloudbreak and Christmas Creek mine sites are located on the southern slopes of the Chichester Ranges; collectively the two mine sites are referred to as the Chichester Operations.

During the initial stages of operation, mining is proposed for the Cloudbreak and Christmas Creek areas, with ore hauled by truck from Christmas Creek to the ore processing facility at Cloudbreak. Ore from Cloudbreak and Christmas Creek will be transported by train along the approved north-south (Stage A) and east-west (Stage B) railways to Port Hedland.

Proposed extensions of the rail line to the south and to the east will be considered in future expansions.

The existing infrastructure at Fortescue's Herb Elliott Port provides for train unloading, stacking, reclaiming and ship loading of iron ore via a conveyor system. Expansion of the port facility to include an additional fourth and fifth



berth and increased reclaiming capacity is proposed to handle increased ore production from the Chichester Operations.

1.2 BACKGROUND

The Project is located within the Pilbara Bioregion as described in the Interim Biogeographic Regionalisation for Australia (IBRA) (Thackway and Cresswell, 1995; Environment Australia, 2000).

The Project area occurs within two major physiographic units within the Fortescue District (Figure 2). These are:

- Chichester Plateau – a plateau forming a watershed between numerous rivers flowing north through the Abydos Plain to the coast, and the Fortescue drainage on the southern side of the range (Beard, 1975). The Christmas Creek mine site is located on the southern edge of this unit. The Cloudbreak mine is located between the Chichester Plateau and the Fortescue Valley; and
- Fortescue Valley – occupying a trough between the Chichester and Hamersley Plateaux; the eastern portion drains into the Fortescue Marshes, while the western portion drains through a valley through the Chichester Plateau (Beard, 1975). The rail spur from Christmas Creek follows the northern edge of the Fortescue Valley then swings north through the Chichester Ranges to meet the north-south rail.

With increasing survey work in the Pilbara, it is becoming apparent that this region is one of the centres of fauna biodiversity in the State (Biota, 2004). This appears to be related to the diversity of geological, altitudinal and climatic elements in the region, as well as a function of its location.

Biological survey work for environmental impact assessment of the Project (Environ 2005, 2005a) recorded several species of conservation significance, including the Mulgara. Other species of conservation significance are known from the area and are summarised in Appendix A.

Details of each species of conservation significance, their habitat and and their potential to be relocated are presented in Appendix B.

1.3 PURPOSE

The purpose of this Plan is to outline the existing information available on the fauna species and to identify, assess and minimise potential environmental impacts of Fortescue's mining operations on surrounding fauna populations.

The plan is developed to meet the requirements of condition 7-1 in Ministerial Statements 707 and 721, as described in Table 1.

Table 1: Requirements of Ministerial Statements 707 and 721

Ministerial Statement	Requirement	Location
707	Define the methodology to undertake further fauna surveys before the commencement of ground-disturbing activities.	Section 4.1
	Include follow-up surveys and delineation of significant fauna populations.	Section 4.3
	Include measures to control, and where possible, exclude feral animals.	Section 4.2
	Outline plans to minimise the effects of vegetation clearing, noise, vibration, light overspill, and any other impacts on fauna.	Section 4.3
	Identify suitable relocation sites and relocation techniques or other means of ensuring the ongoing and appropriate protection for fauna species.	Section 4.3
	Monitor and report the success of relocation or other agreed means of appropriate protection employed.	Section 4.3
721	Define the methodology to undertake further fauna surveys before ground-disturbing activities.	Section 4.1
	Include follow-up surveys and identification of significant fauna populations and their distribution.	Section 4.3
	Include measures to control, and where possible, exclude feral animals.	Section 4.2
	Implement measures to protect fauna from the effects of vegetation clearing, noise, vibration, light overspill, and any other impacts on fauna.	Section 4.3
	Identify suitable means of ensuring ongoing appropriate protection of fauna.	Section 4.3
	Monitor and report the success of agreed means of appropriate protection employed.	Section 4.3

The management plan objectives as described in Ministerial Statement 707 and 721 are to:

- Establish the potential direct and indirect impacts on fauna species, including threatened and priority-listed species, within the project area, transport corridor and the adjacent Fortescue Marshes;



- Establish management and monitoring strategies to minimise the potential impacts on fauna species;
- Establish appropriate review mechanisms regarding the strategies employed to minimise impacts on fauna species;
- Provide further information to clarify the potential direct and indirect impacts on fauna species, including threatened and Priority-listed species [such as the Night Parrot (*Pezoporus occidentalis*) and Bilby (*Macrotis lagotis*)], within the project area, transport corridor and the adjacent Fortescue Marshes;
- Establish and implement management and monitoring strategies to ensure that the Night Parrot (*Pezoporus occidentalis*) and Bilby (*Macrotis lagotis*) are not significantly disturbed within the project area, the adjacent Fortescue Marshes and the transport corridor.

1.4 SCOPE

This management plan covers the fauna management in the Chichester Operations area, which includes the following areas:

- Cloudbreak mine site;
- Access road from Cloudbreak east to Marble Bar Road; and
- Christmas Creek mine site.

This plan will be revised to include other mine sites as they are developed in later stages of the Project.

1.5 POTENTIAL ENVIRONMENTAL IMPACTS

Direct and indirect impacts on fauna from Fortescue's operations are likely to be may include:

- Habitat loss or fragmentation;
- Altered fire regimes;
- Dust, noise and vibration;
- Light spillage;
- Vehicle interactions;
- Predation and competition from feral species;
- Uncapped drill holes;



- Putrescible wastes; and
- Increased availability and/or dependence on permanent water sources.

Measures to be undertaken by Fortescue to manage and mitigate the potential impacts to fauna species are outlined in Section 5.

1.6 OTHER RELEVANT DOCUMENTS

The following Fortescue documents should be read in conjunction with this plan:

- *Bilby, Northern Quoll and Mulgara Management Plan (45-PL-EN-0008)*
- *Chichester Operations Construction Noise and Vibration Management Plan (CB-PL-EN-0007)*
- *Fire Management Plan (100-PL-SA-0013)*
- *Night Parrot Management Plan (CB-PL-EN-0004)*
- *Waste Management Plan (45-PL-EN-0014)*



1.7 STAKEHOLDER CONSULTATION

Fortescue has undertaken an extensive stakeholder consultation program whereby landowners, regulators and other relevant parties have been consulted with regard to investigation and design of the mine sites. The Department of Environment and Conservation (DEC) have been consulted regarding fauna survey methodologies.

Fortescue applies the principles of its *Stakeholder Consultation Strategy* (100-PH-EN-0003) for the development and implementation of stakeholder engagement strategies during management plan development and implementation.



2. APPLICABLE LEGISLATION

Fortescue employees and contractors shall comply with all Commonwealth and State legislation that applies to the development and operation of the Project. Legislation relevant to fauna management is outlined in Table 2.

Table 2: Relevant Legislation and its Application

Legislation	Application
<i>Environmental Protection Act 1986</i>	State environmental impact assessment and Ministerial approval process.
<i>Wildlife Conservation Act 1950</i>	Assesses the conservation significance of fauna species and forms the framework for significant species protection at the State level.
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Assesses the conservation significance of fauna species and forms the framework for significant species protection at the Commonwealth level.



3. ROLES AND RESPONSIBILITY

Table 3 provides provisional roles and responsibilities of the personnel responsible for the implementation of the *Chichester Operations Fauna Management Plan*.

Table 3: Roles and Responsibilities

Position	Responsibility
Head of Environment	Implementation and maintenance of this plan. Undertake a review of the management plan.
Environment Superintendent	Formulate and implement fauna surveys, monitoring programs and feral animal control. Ensure all staff are aware of their obligations in relation to this plan. Deliver fauna education and induction awareness training to field personnel. Maintain site records of surveys and implement monitoring programs.
Construction/Operation Managers	Ensure the plan is being adhered to by all staff and contractors. Participate in compliance audits and inspections.
All Fortescue personnel, contractors and visitors	Minimise impacts on native fauna from the construction and operation of the project. Report all fauna incidents and feral sightings.



4. ENVIRONMENTAL MANAGEMENT

A series of management objectives has been determined. For each of these objectives, several management actions have been developed to ensure the risks to fauna species are managed, and a range of monitoring and assessment functions to which the plan is being implemented. The general approach to management of fauna has been detailed according to the following structure.

Item	Content
Objective	What is aimed to be achieved.
Management Actions	Tasks that will be undertaken to ensure the Objective is met. Include list of the relevant procedures.
Performance Indicators	Qualitative or quantitative measures to determine if the objective is met.
Monitoring	Details of measurement of performance indicators.
Reporting	Nature, timing and responsibility for reporting results.
Corrective Action	Action to be taken if monitoring indicates objective is not being met.
Term	Active term of management plan.
Responsibility	Delegation/nomination of responsibilities for overseeing management plan operation.



4.1 ADDITIONAL FAUNA SURVEYS

Objective/Target	Establish the potential for impacts to fauna species by conducting fauna surveys within the Project area.
Management Actions	<p>Undertake targeted fauna surveys that are consistent with the EPA's <i>Guidance for the Assessment of Environmental Factors No. 56 – Terrestrial Fauna Surveys for Environmental Impact Assessments in Western Australia</i>, to better determine the distribution of significant fauna.</p> <p>A desktop risk assessment approach may be used for fauna surveys in instances where proposed clearing is less than 10 ha, nearby fauna habitats have been extensively surveyed within the last 2 years and no conservation significant fauna were located.</p>
Performance Indicators	Assessments are completed prior to disturbance.
Monitoring	Monitoring of the appropriateness of fauna surveys will be based on correspondence provided by the DEC from review of Annual Environmental Reports.
Reporting	<p>Any conservation significant fauna identified will be recorded in Fortescue Conservation Significant Fauna Register and spatial information recorded in Fortescue Geographical Information System (GIS) database.</p> <p>The occurrence of any conservation significant fauna will be reported to the Construction/Operation Managers and the Environment Superintendent.</p> <p>The results of all surveys completed will be summarised in Annual Environmental Reports.</p>
Corrective Action	If necessary, survey techniques will be modified and supplementary survey work conducted.
Term	Life of the Project
Responsibility	Head of Environment Environment Superintendent



4.2 CONTROL OF FERAL ANIMALS

Objective/Target	Minimise the potential impacts on fauna species from feral animals as a result of Fortescue's operations. No significant increase in feral animal numbers recorded within the Project areas.
Management Actions	The feeding of animals on the project areas is prohibited. No pets will be permitted on the Project areas. Undertake feral animal control programs. Putrescible waste will be disposed of at an appropriately licensed facility. Undertake inspections of surface water sources created as a result of Fortescue's Operations to assess whether they may be helping to support feral animals.
Performance Indicators	Feral animal numbers recorded from sightings, incident reports and control programme results. Sightings of significant fauna species.
Monitoring	Monitoring of feral animal population numbers will be undertaken through a combination of the monthly recording of opportunistic staff sightings of feral animals as well as control programs. During compulsory site inductions all staff will be instructed to record feral animal sightings using the incident reporting system.
Reporting	Results of feral animal control programs in monthly reports. Annual Environmental Report
Corrective Action	Feral animal control activities will be adjusted where monthly data show changes in recorded feral animal populations.
Term	Life of the Project
Responsibility	Head of Environment Environment Superintendent



4.3 MINIMISE IMPACTS ON FAUNA

Objective/Target	Minimise the direct and indirect impacts on fauna as a result of Fortescue's operations.
Management Actions	<p>All significant fauna habitat will be spatially identified and where appropriate demarcated on site.</p> <p>All lined surface water storage will have fauna egress points.</p> <p>Where permanent storage ponds are identified as attracting fauna management actions may include:</p> <ul style="list-style-type: none">• Fencing of the ponds; and• Scaring devices. <p>Vehicle speeds are to be restricted to:</p> <ul style="list-style-type: none">• 80 km/h on the eastern major access road;• 60 km/h on haul roads and mine site roads;• 40 km/h on ramps, dumps and bottom of pits;• 15 km/h around camps, workshops and infrastructure; and• Other speeds as sign-posted, with driving to be at speeds appropriate to conditions at all times. <p>Driving off road or on restricted access routes is prohibited other than for emergency situations or where express permission has been obtained from the Environment Superintendent.</p> <p>Provide information to all personnel about fauna and foster responsible attitudes towards handling and care of fauna.</p> <p>Clearing shall not be undertaken outside authorised areas as defined the Ground Disturbance Permit (GDP) approvals process.</p> <p>Where practicable, retain large mature habitat trees.</p> <p>Where possible, all significant fauna burrows (active and inactive) will be retained.</p> <p>Appropriate site representatives will be trained in snake handling techniques and provided with equipment to safely handle snakes.</p> <p>Lighting is to be directed onto construction or operational areas.</p> <p>Undertake progressive rehabilitation of disturbed areas in accordance with the <i>Mine Closure Plan</i>.</p> <p>Night Parrots will be managed according to the <i>Night Parrot Management Plan</i> (CB-PL-EN-0004).</p> <p>Bilbies will be managed according to the <i>Bilby Management Plan</i> (45-PL-EN-0008).</p> <p>Subterranean fauna impacts will be assessed according to the <i>Stygofauna Survey Plan</i> (45-PL-EN-0010).</p> <p>Fire will be managed according to the <i>Fire Management Plan</i></p>



	<p>(100-PL-SA-0013).</p> <p>Low-noise equipment will be used where practicable and all activities will be carried out in accordance with statutory requirements and appropriate standards.</p> <p>Blasting will be avoided under worst-case meteorological events and mine pits will be designed to reduce potential noise impacts.</p> <p>Investigate options such as burial for water pipelines where they cross fauna habitat and may be likely to impede movement of fauna.</p> <p>All exploration drill holes are to be capped on completion of the drilling programme.</p> <p>All grade control drill holes are to be secured where mining and/or vegetation removal is not planned to occur within 3 months.</p>
Performance Indicators	<p>Results from fauna surveys.</p> <p>Reduction in fauna deaths.</p> <p>No vegetation clearing undertaken outside of surveyed and approved areas during construction and operation.</p> <p>No evidence of noise and vibration significantly impacting on fauna during construction and operation.</p> <p>Avoidance of all impacts to conservation significant fauna where practicable.</p> <p>Where practicable, relocate all encountered fauna during clearing.</p>
Monitoring	<p>Fauna surveys in rehabilitated areas.</p> <p>Environmental Incidents Register.</p>
Reporting	<p>Significant fauna deaths will be reported to DEC and DEWHA (where applicable).</p> <p>Recording of all vehicle collisions with animals that cause death or injury as environmental incidents.</p> <p>Recording of any injuries to fauna, or entrapment of fauna on incident report forms.</p> <p>A summary of incidents relating to fauna will be provided in Annual Environmental Reports.</p>
Corrective Action	<p>In the event that particular species of fauna are consistently being killed or injured, relevant work practices will be reviewed and revised to reduce occurrences.</p> <p>In the event that inspection, monitoring or incident records show that management actions are not effective, practices will be reviewed and changed as appropriate to minimise impacts to fauna.</p> <p>In the event that a significant fauna species is injured or killed, the incident will be investigated and work practices modified to minimise the risk of reoccurrence.</p>



Term	Life of the Project
Responsibility	Head of Environment Environment Superintendent



5. TRAINING AND AWARENESS

Fortescue will ensure that all employees and contractors complete an environmental induction. The environmental induction will include a component on conservation significant fauna species that are likely to occur within the Project area. The induction will cover the reporting of sightings of conservation significant fauna and feral animals and measures to be undertaken to ensure that impacts to fauna are minimised.



6. AUDITS AND INSPECTIONS

Auditing of Fortescue's performance against its environmental compliance obligations is achieved through the conduct of regular internal audits.

Fortescue will conduct compliance audits at least annually. Audit reports will describe the status of compliance with environmental obligations at the time of the audit and identify areas of non-conformance and non-compliance and assign corrective actions to remedy and non-conformance and non-compliance issues.



7. REVIEW

It is important that plans and procedures are frequently reviewed and revised as Fortescue's operations change and opportunities for improved management practices are identified.

This Management Plan will be reviewed at least every five years, or when significant additional information comes to hand. The review will be based on achieving approval requirements, Fortescue commitments, and progress in implementing the management plan and will incorporate any new investigations, information, techniques and advice from experts and regulatory authorities.

Upon review, the document will be revised where appropriate and the revision status will be updated in accordance with Fortescue's document control procedures.

8. CONSOLIDATED MANAGEMENT ACTIONS

Consolidated management actions are provided in Table 4.

Table 4: Summary of Management Actions in this Plan

Environmental Aspect	Management Actions
Additional Fauna Surveys	<p>Undertake targeted fauna surveys that are consistent with the EPA's <i>Guidance for the Assessment of Environmental Factors No. 56 – Terrestrial Fauna Surveys for Environmental Impact Assessments in Western Australia</i>, to better determine the distribution of significant fauna.</p> <p>A desktop risk assessment approach may be used for fauna surveys in instances where proposed clearing is less than 10 ha, nearby fauna habitats have been extensively surveyed within the last 2 years and no conservation significant fauna were located.</p>
Control of Feral Animals	<p>The feeding of animals on the project areas is prohibited.</p> <p>No pets will be permitted on the Project areas.</p> <p>Undertake feral animal control programs.</p> <p>Putrescible waste will be disposed of at an appropriately licensed facility.</p> <p>Undertake inspections of surface water sources created as a result of Fortescue's Operations to assess whether they may be helping to support feral animals.</p>
Minimise Impacts on Fauna	<p>All significant fauna habitat will be spatially identified and where appropriate demarcated on site.</p> <p>All lined surface water storage will have fauna egress points.</p> <p>Where permanent storage ponds are identified as attracting fauna management actions may include:</p> <ul style="list-style-type: none"> • Fencing of the ponds; and • Scaring devices. <p>Vehicle speeds are to be restricted to:</p> <ul style="list-style-type: none"> • 80 km/h on the eastern major access road; • 60 km/h on haul roads and mine site roads; • 40 km/h on ramps, dumps and bottom of pits; • 15 km/h around camps, workshops and infrastructure; and • Other speeds as sign-posted, with driving to be at speeds appropriate to conditions at all times. <p>Driving off road or on restricted access routes is prohibited other than for emergency situations or where express permission has been obtained from the Environment Superintendent.</p> <p>Provide information to all personnel about fauna and foster</p>



Environmental Aspect	Management Actions
	<p>responsible attitudes towards handling and care of fauna.</p> <p>Clearing shall not be undertaken outside authorised areas as defined the Ground Disturbance Permit (GDP) approvals process.</p> <p>Where practicable, retain large mature habitat trees.</p> <p>Where possible, all significant fauna burrows (active and inactive) will be retained.</p> <p>Appropriate site representatives will be trained in snake handling techniques and provided with equipment to safely handle snakes.</p> <p>Lighting is to be directed onto construction or operational areas.</p> <p>Undertake progressive rehabilitation of disturbed areas in accordance with the <i>Mine Closure Plan</i>.</p> <p>Night Parrots will be managed according to the <i>Night Parrot Management Plan</i> (CB-PL-EN-0004).</p> <p>Bilbies will be managed according to the <i>Bilby Management Plan</i> (45-PL-EN-0008).</p> <p>Subterranean fauna impacts will be assessed according to the <i>Stygofauna Survey Plan</i> (45-PL-EN-0010).</p> <p>Fire will be managed according to the <i>Fire Management Plan</i> (100-PL-SA-0013).</p> <p>Low-noise equipment will be used where practicable and all activities will be carried out in accordance with statutory requirements and appropriate standards.</p> <p>Blasting will be avoided under worst-case meteorological events and mine pits will be designed to reduce potential noise impacts.</p> <p>Investigate options such as burial for water pipelines where they cross fauna habitat and may be likely to impede movement of fauna.</p> <p>All exploration drill holes are to be capped on completion of the drilling programme.</p> <p>All grade control drill holes are to be secured where mining and/or vegetation removal is not planned to occur within 3 months.</p>



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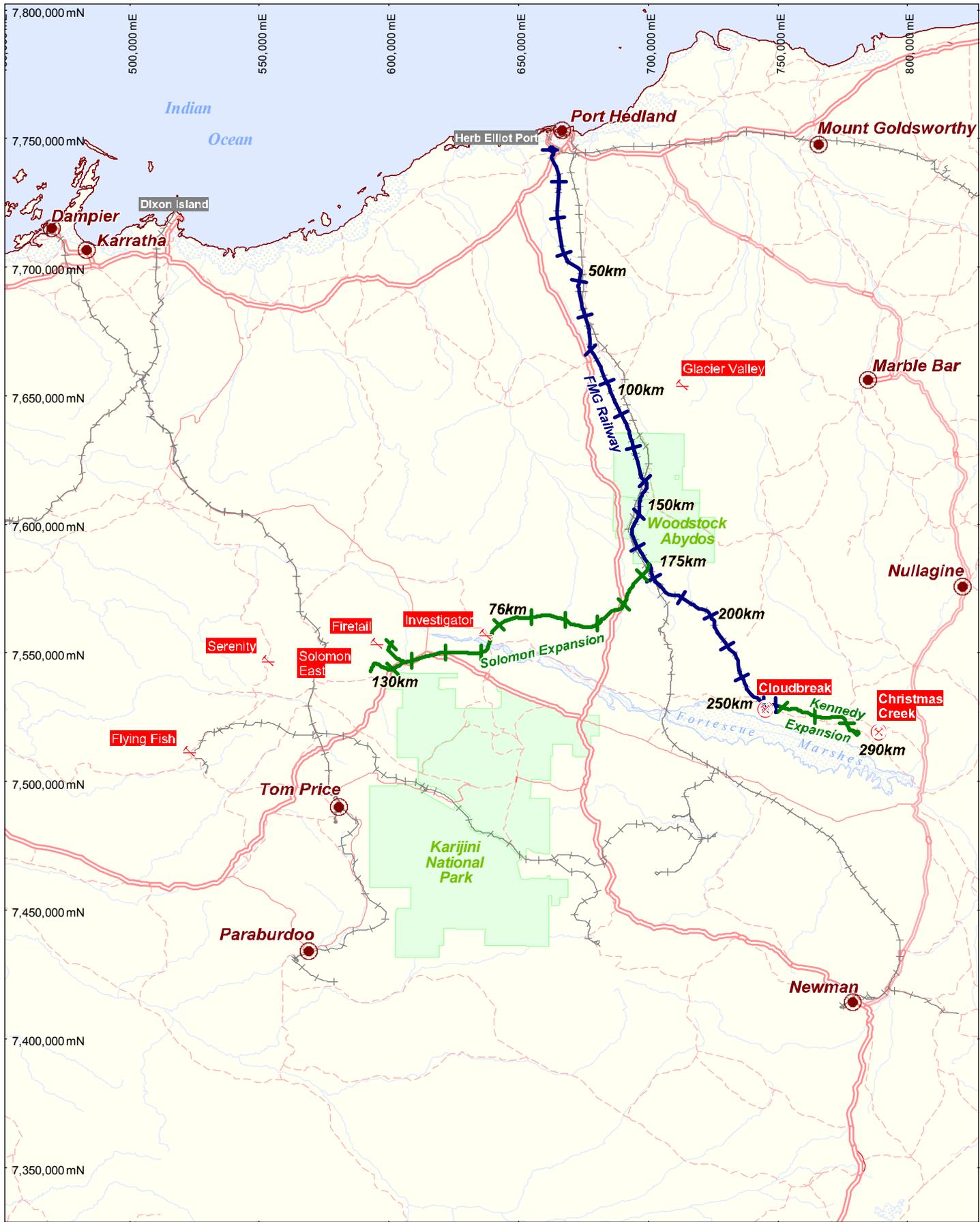
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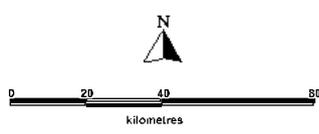
Figure 1

Regional Project Location

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- Legend**
- Towns
 - Major Roads/Tracks
 - Creeks
 - FMG Railway
 - FMG Proposed Railways
 - Other Railways
 - FMG Mines
 - FMG Resources



FMG Fortescue Metals Group Ltd

FMG Regional Project

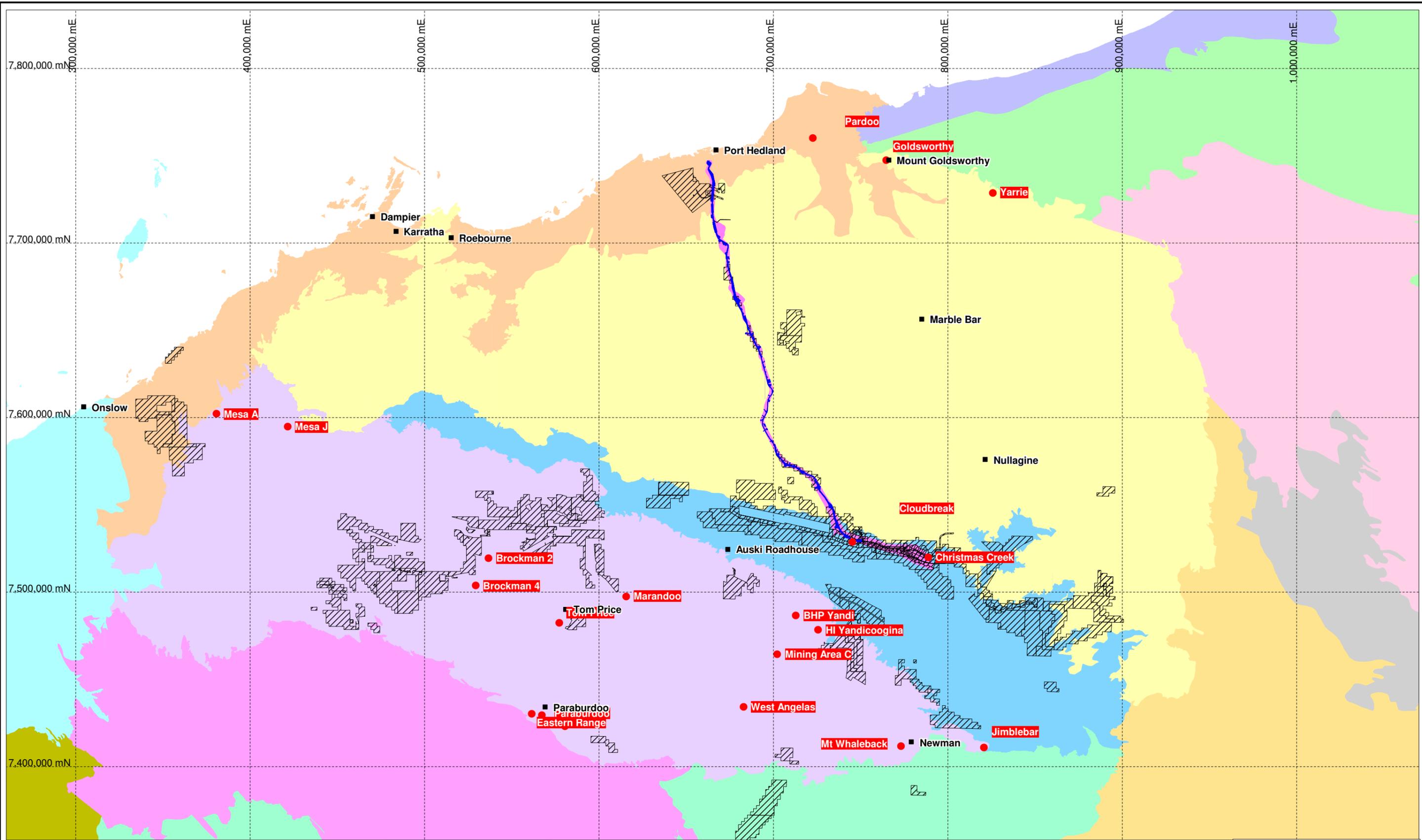
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Figure 2

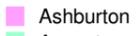
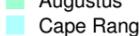
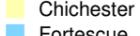
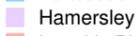
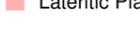
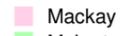
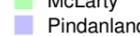
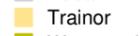
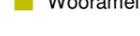
**Interim Biogeographic Regionalisation for Australia – Pilbara Region
(Thackway and Cresswell, 1995)**

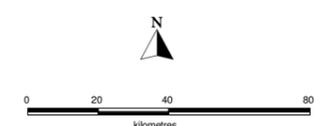
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-  FMG Granted Tenements
-  PER Area Approved
-  FMG Clause 7 Corridor
-  Major Mines
-  Major Towns

IBRA Regions in the Pilbara

-  Ashburton
-  Augustus
-  Cape Range
-  Chichester
-  Fortescue
-  Hamersley
-  Lateritic Plain
-  Mackay
-  McLarty
-  Pindanland
-  Roebourne
-  Rudall
-  Trainor
-  Wooramel



FMG Fortescue Metals Group Ltd

Interim Biogeographic Regionalisation for Australia - Pilbara Region

Author: S Huxtable	Date: 12/8/2009
Drawn By: Jen Thomson	Revision:
Doc No: GE_MP_EN_0006	Confidentiality:
Projection: MGA Zone 50 (GDA 94)	Scale: 1:2000000

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Appendices

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Appendix A

**Fauna of Conservation Significance Recorded or Likely to Occur in the
Chichester Operations Area**

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Species of State level conservation significance recorded from or likely to occur within the Project Areas (data from Biota 2001a,b; 2002a,b; 2003a,b; 2004a,b,c, 2005).

Species	Stage B	Hope Downs	Cloudbreak	Wildlife Conservation Act 1950	Environmental Protection and Biodiversity Conservation Act 1999
Night Parrot <i>Pezoporus occidentalis</i>				Schedule 1	Endangered
Northern Quoll <i>Dasyurus hallucatus</i>	Rail			Schedule 1	Endangered
Mulgara <i>Dasyercus cristicauda</i>				Schedule 1	Vulnerable
Bilby <i>Macrotis lagotis</i>			X	Schedule 1	Vulnerable
Pilbara Olive Python <i>Liasis olivaceus barroni</i>		X	X	Schedule 1	Vulnerable
Woma <i>Aspidites ramsayi</i>				Schedule 4	-
Peregrine Falcon <i>Falco peregrinus</i>			X	Schedule 4	-
<i>Ramphotyphlops ganei</i>				Priority 1	-
Spectacled Hare-wallaby <i>Lagorchestes conspicillatus</i>			X	Priority 3	-
Ghost Bat <i>Macroderma gigas</i>			X	Priority 4	-
Short-tailed Mouse <i>Leggadina lakedownensis</i>	Christmas Creek			Priority 4	-
Grey Falcon <i>Falco hypoleucos</i>				Priority 4	-
Bush Stone-curlew <i>Burhinus grallarius</i>	Christmas Creek		X	Priority 4	-
Star Finch <i>Neochmia ruficauda subclaescens</i>			X	Priority 4	-
Long Tailed Dunnart <i>Sminthopsis longicaudata</i>			X	Priority 4	-
Lakeland Downs Mouse <i>Leggadina Lakedownensis</i>			X	Priority 4	-

Notes on classification of rare or threatened fauna under the *Wildlife Conservation Act 1950*

Classification of rare and endangered fauna under the *Wildlife Conservation (Specially Protected Fauna) Notice 1998* recognises four distinct schedules of taxa:

- Schedule 1 - taxa are fauna which are rare or likely to become extinct and are declared to be fauna in need of special protection;
- Schedule 2 - taxa are fauna which are presumed to be extinct;
- Schedule 3 - taxa are birds which are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction which are declared to be fauna in need of special protection; and
- Schedule 4 - taxa are fauna that are in need of special protection, otherwise than for the reasons mentioned above.

In addition to the above classification, fauna are also recognised by DEC under four Priority levels:

- Priority One - Taxa with few, poorly known populations on threatened lands. Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Two - Taxa with few, poorly known populations on conservation lands, or taxa with several, poorly known populations not on conservation lands. Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Three - Taxa with several, poorly known populations, some on conservation lands. Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- Priority Four - Taxa in need of monitoring. Taxa which are considered to have been adequately surveyed or for which sufficient knowledge is available and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands. Taxa which are declining significantly but are not yet threatened.

Appendix B

Significant Fauna Descriptions, Habitat and Relocation Potential

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Species	Illustration	Description	Habitat	Relocation Potential
<p>Night Parrot <i>Pezoporus occidentalis</i></p>		<p>The Night Parrot is a medium sized bird, about 23 cm long. It is mottled yellowish-green and dark brown over most of the body, with the lower belly and under tail coverts yellow. There is a pale yellow stripe through the middle of the wing. This species closely resembles the Ground Parrot <i>Pezoporus wallicus</i> of coast south eastern and south western mainland and Tasmania. It differs by lacking the orange band on the forehead across the base of the upper mandible, a noticeably shorter tail, and shorter, straighter claws on the toes.</p>	<p>Night Parrots are birds of the arid zone where there is dense, low vegetation, which provides them shelter during the day. Most records come from hummock grasslands with spinifex (porcupine grass, <i>Triodia</i>) or from areas dominated by samphire. It has been suggested that birds move into the grasslands when <i>Triodia</i> is seeding. They have also been reported in low chenopod shrublands with saltbush and bluebush, and from areas of Mitchell grass <i>Astrebla</i> with scattered chenopods. Many records have come from waterholes, and almost all reports from areas of <i>Triodia</i> have noted the presence of nearby water.</p>	<p>Bird species are expected to disperse ahead of physical disturbance. No relocation required.</p>
<p>Mulgara <i>Dasycercus cristicauda</i></p>		<p>Sand coloured fur covers the back of the mulgara and fades into a pale grey on the underbelly and chin. The first half of tail has the same coloration as the body; the second half of the tail is covered in bushy, black fur. Short, round ears and a short nose are also present on the mulgara. The tail of the mulgara averages 100mm, the head and body together average 180mm, and the total body weight is about 130g.</p>	<p>A range of vegetation types is occupied; however the principle habitat is mature hummock grasslands of spinifex. Mulgaras avoid recently burnt areas with little spinifex cover and patches of senescing spinifex. The location of Mulgara colonies may be better watered areas such as paleo-drainage systems or drainage lines in sandplain or sand dune habitats.</p>	<p>Mulgara are not readily trapped and avoidance of active burrows is recommended over relocation. Where avoidance of active burrows is not possible, trapping and relocation to nearby similar vegetation immediately prior to clearing is recommended. Trapping and relocation works are to be done by suitable qualified and experienced fauna consultants only, and in consultation with the DEC.</p>

Species	Illustration	Description	Habitat	Relocation Potential
Bilby <i>Macrotis lagotis</i>		<p>Soft silky-furred bandicoot with long and pointed muzzle, large rabbit like ears and grey silky hair. The belly fur is cream to pure white. The tail is long with black fur on the proximal half and white fur on the distal half, has a prominent dorsal crest and is naked on the extreme tip. The forelimbs are robust and have three clawed and two unclawed toes for digging burrows and extracting food from the soil</p>	<p>Bilbies were formerly known to occupy habitat ranging from Eucalyptus and Acacia woodlands in the wheatbelt of WA to the <i>Triodia</i> grasslands in the desert regions. They require sandy to loamy soil in which to burrow.</p>	<p>Bilbies are highly mobile in arid environments and utilise a number of burrows. Avoidance of active burrows is recommended. Where active burrows cannot be avoided, animals are to be trapped and relocated to nearby similar vegetation. Trapping and relocation works are to be done by suitable qualified and experienced fauna consultants only, and in consultation with the DEC.</p>
Pilbara Olive Python <i>Liasis olivaceus barroni</i>		<p>Pilbara Olive Pythons are covered in scales that are olive green or red brown in colour. In the sun, they appear to have a rainbow sheen. The underneath of their body is either white or pale yellow. They have two large eyes that are placed wide apart on the head and look forward. POP's have a long body. They have a forked tongue.</p>	<p>Pilbara Olive Pythons live in rock piles where they can hide in crevices to get away from the Pilbara heat. They are often found near water in search of prey. Pilbara Olive Pythons can only be found in the Pilbara.</p>	<p>Direct impact expected to be minor due to the narrow footprint of the railway. If animals are found during construction, they can be moved out of the impact area. Relocation is to be done by suitably trained personnel and animals placed into vegetation similar to the area impacted.</p>
Woma <i>Aspidites ramsayi</i>		<p>Distinguished from other Australian pythons in possessing a narrow head rather than a broad head distinct from the body. Grey, olive brown or rich red brown above often lighter on sides usually with several darker olive, brown to black cross bands which are normally narrower than the lighter interspaces.</p>	<p>The Woma occurs in the arid zones of Western Australia favouring open myrtaceous heath on sandplains and dune fields dominated by spinifex.</p>	<p>Direct impact expected to be minor due to the narrow footprint of the railway. If animals are found during construction, they can be moved out of the impact area. Relocation is to be done by suitably trained personnel and animals placed into vegetation similar to the area impacted.</p>

Species	Illustration	Description	Habitat	Relocation Potential
<p>Peregrine Falcon <i>Falco peregrinus</i></p>		<p>The Peregrine Falcon is a medium-sized falcon about the size of a large crow: 38-53 cm (15 to 21 inches) long. The English and scientific species names mean "wandering falcon", and refer to the fact that some populations are migratory. It has a wingspan of about 1 metre (40 inches). Males weigh 570-710 grams; the noticeably larger females weigh 910-1190 grams.</p>	<p>Within its range, this falcon prefers open country from tundra, savannah and sea coasts, to high mountains, as well as open forests and tall buildings. Nests are built on high ledges, 50 to 200 feet off the ground. The nest itself is a well rounded scrape and is occasionally lined with grass.</p>	<p>Bird species are expected to disperse ahead of physical disturbance. No relocation required.</p>
<p>Spectacled Hare-Wallaby <i>Lagorchestes conspicillatus</i></p>		<p>A small nocturnal macropod with a superficial resemblance to the European hare in appearance and behaviour. The head and body length is slightly greater than the tail length. Its fur is grizzled brown above. Individual hairs are white tipped giving a peppered appearance to the coat. A bright orange ring of fur around the eye distinguishes the species from others in the genus and is the basis of its popular name 'red eye'.</p>	<p>The spectacled hare-wallaby is an inhabitant of the tropical grasslands and woodlands of northern Australia, and extends into tussock grasslands of central Australia. It also occurs on Barrow Island off the Pilbara coast of Western Australia.</p>	<p>Expected to disperse ahead of disturbance. No relocation required.</p>

Species	Illustration	Description	Habitat	Relocation Potential
Ghost Bat <i>Macroderma gigas</i>		<p>Ghost bats get their names from their appearance. They have a light grey or almost white appearance. They are small, with a body length between 10 and 15 centimetres and the females are smaller than the males.</p>	<p>This bat has been found in both arid or dry regions and also rain forest areas. (in Australia) There are only about 4000 to 6000 in the wild there. The food of this bat consists mostly of large insects, frogs, small mammals, lizards, birds, and even other bats.</p>	<p>Survey to ensure no roost sites are impacted by the railway. Not suitable for relocation.</p>
Short-tailed Mouse <i>Leggadina lakedownensis</i>		<p>Colouration is light-brown, grading to pure white on the belly. Snout is blunt, ears short and often surrounded by dorsal hairs. Tail is shorter than the head-body length. Feet are white and slender. Individuals from Thevenard Island can be up to twice the size (up to 40 grams) of mainland specimens.</p>	<p>Known to occur on sandy soils and cracking clays in Western Australia and tropical tussock grasslands or woodlands in Queensland. On Thevenard Island, occupies Acacia shrublands and low shrubs on deep sandy soils.</p>	<p>Not suitable for relocation.</p>

Species	Illustration	Description	Habitat	Relocation Potential
<p>Grey Falcon <i>Falco hypoleucos</i></p>		<p>The Grey Falcon is a medium-sized, compact, pale falcon with a heavy, thick-set, deep-chested appearance. It is smaller than the Peregrine Falcon but similar in shape and flight, although with longer wings. Upperparts are uniform light grey, shading to blackish on the primaries, forming conspicuous dark wing tips. The tail has narrow blackish bars. The chin, throat and cheeks are white, and the rest of the underbody is pale grey. The eye-ring, cere and base of the bill are bright orange-yellow, and the tip of the bill black.</p>	<p>Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast.</p> <p>Also occurs near wetlands where surface water attracts prey.</p>	<p>Bird species are expected to disperse ahead of physical disturbance. No relocation required.</p>
<p>Northern Quoll <i>Dasyurus hallucatus</i></p>		<p>The Northern Quoll is the smallest in the quoll family, growing to a maximum weight of 1.2 kg (about the size of a small cat). It has a dark grey to brownish body with large white spots and a long furry tail.</p> <p>Northern quolls have an annual highly synchronised mating season; shortly after mating, all the males in the population die off.</p>	<p>The Northern Quoll is a medium-sized carnivorous marsupial that lives in the savannas of northern Australia. They live in a range of habitats, but prefer rocky areas and eucalypt forests.</p> <p>The quoll is a good climber. It shelters during the day in rock crevices, tree hollows, logs or termite mounds and forages at night, both in trees and on the ground, for invertebrates, vertebrates and fruit.</p> <p>Home range sizes vary from 35 ha (in females) to over 1 km² for males in savEanna woodland.</p>	<p>Relocation of entire population through trapping is possible prior to clearing activities in consultation with DEC and results of ground truthing fauna survey.</p>

Species	Illustration	Description	Habitat	Relocation Potential
Bush Stone-curlew <i>Burhinus grallarius</i>		<p>The Bush Stone-curlew, or Bush Thick-knee, is a large (52 to 58 cm), slim, mainly nocturnal, ground-dwelling bird. It is mostly grey-brown above, streaked with black and rufous. It is whitish below with clear, vertical black streaks. The bill is small and black, and the eye is large and yellow, with a prominent white eyebrow. Both sexes are similar. The voice is a characteristic drawn-out, mournful "wer-loooo", often heard at dusk and during the night.</p>	<p>The range of the Bush Stone-curlew extends throughout Australia. It was formerly quite common, but has declined in numbers through loss of habitat and predation by foxes and feral cats. Today it is more abundant in the north, but can be found in open wooded country, scrubs, golf courses, and even cemeteries. When sighted, a bird will normally crouch down or stand perfectly still and rely on the plumage pattern to disguise it. If approached, it will tend to walk away rather than fly (especially during the day).</p>	<p>Bird species are expected to disperse ahead of physical disturbance. No relocation required.</p>
Star Finch <i>Neochmia ruficauda subclarescens</i>		<p>Males are easily distinguished from hens by their larger face mask. The males also have a song that they will sing while stretching their neck and fluffing their head feathers, often while carrying a long piece of nesting material .</p>	<p>Star Finches originated from Northern Australia. They occur from Shark Bay to Northern New South Wales. They now have spread to the Gulf of Carpentaria, mostly on the western side. They inhabit tropical swamps, rice and sugar-cane fields, dense scrub, woodland, trees, and in tall grasses near water.</p>	<p>Bird species are expected to disperse ahead of physical disturbance. No relocation required.</p>