Fortescue

Plan

Environmental Management Plan

East Pilbara Generation Hub

29 April 2025

AUSS0003-0000-EN-PLN-0001

Rev 0

EPBC Number	*TBC*
Project Name	East Pilbara Generation Hub
Proponent / Approval Holder	Pilbara Energy (Generation) Pty Ltd
ABN of Approval Holder	31 631 303 305
Proposed Action	The Proposed Action is for the construction and operation of a renewable energy wind generation hub, to power the Fortescue mining operations in the Pilbara region of Western Australia.
Location of the Action	The Proposal is located approximately 40 km southeast of Marble Bar and 90 km east of Fortescue's Iron Bridge Project in the Shire of East Pilbara and Nyamal Native Title determination area.
Date of Preparation	29 April 2025

Declaration of Accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the *EPBC Act or the Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed: **Date**: 29 April 2025

jarrod.pittson Digitally signed by jarrod.pittson
DN: cn=jarrod.pittson, email=jarrod.pittson@fortescue.com
Date: 2025.04.30 09:00:20 +08'00'

Full name: Jarrod Pittson

Organisation: Pilbara Energy (Generation) Pty Ltd

EXECUTIVE SUMMARY

Table E 1 Executive Summary Table

Proposal name	East Pilbara Generation Hub
Proponent name	Pilbara Energy (Generation) Pty Ltd (PEG)
Ministerial statement number/s	Not applicable (yet to be granted).
Purpose of the EMP	To outline how the environmental impacts of the Proposal will be monitored, reported and managed for the following environmental factors; Flora and Vegetation, Terrestrial Fauna, Social Surroundings, Inland Waters and Terrestrial Environmental Quality.
Key environmental factor/s	• Flora and Vegetation: To protect flora and vegetation so that biological diversity and ecological integrity are maintained. • Terrestrial Fauna: To project terrestrial fauna so that biological diversity and ecological integrity are maintained. • Social Surroundings: To project social surroundings from significant harm. • Inland Waters: To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected. • Terrestrial Environmental Quality: To maintain the quality of land and soils so that environmental values are protected.
Outcomes	**Environmental outcomes**: • Flora and Vegetation: 1. Clearing no more than 2,318.80 hectares (ha) of native vegetation in 'Good or better' condition, of which no less than 1,030.35 ha will be rehabilitated. 2. No more than 249 individuals of the Priority 3 species *Heliotropium murinum* will be cleared. 3. No more than 38.63 ha of groundwater dependent vegetation will be cleared. 4. No vegetation associations will be reduced to below the 'threshold level' of 30% of their pre-European extent. • Terrestrial Fauna: 1. Clearing no more than 7.49 ha of rocky escarpments/ridges/mesa habitat which is critical habitat for the Northern Quoll, Pilbara Leaf-nosed Bat (PLNB), Pilbara Olive Python, Ghost Bat and Peregrine Falcon. 2. Clearing no more than 283.53 ha of hills/ranges/plateaux which is critical habitat for the Northern Quoll and Pilbara Olive Python. 3. Clearing no more than 922.97 ha of plain (boulders) which is critical habitat for the Northern Quoll and the Bilby. 4. Clearing no more than 30.34 ha of drainage line/river/creek (major) which is critical habitat for the Bilby and Grey Falcon, PLNB, Pilbara Olive Python and Ghost Bat and supporting habitat for the Northern Quoll. 5. Clearing no more than 65.34 ha of plain (stony/gibber), 932.12 ha of plain (sand) and 86.44 ha of drainage line/river/creek (minor) habitats which are critical habitat for the Bilby. 6. Avoid disturbance of and ensure no impacts to Ghost Bat and the structural integrity of known Ghost Bat caves. No works to take place within 100 m of known Ghost Bat caves.
Proposed construction date	Q4 2026

EMP required pre-construction?	Yes ☑

TABLE OF CONTENTS

LIST OF TABLES

1 INTRODUCTION

1.1 Proposal

Pilbara Energy (Generation) Pty Ltd (PEG), a wholly owned subsidiary of Fortescue Ltd (Fortescue), is proposing to develop a renewable energy hub, the East Pilbara Generation Hub (EPGH) (the Proposal), comprising of wind generation and a 220 kV transmission line connecting to Fortescue's Iron Bridge Project, in the Pilbara region of Western Australia (WA).

This Environmental Management Plan (the Plan) has been prepared to outline how the environmental impacts of the Proposal will be monitored, reported and managed for the environmental factors, Flora and Vegetation, Terrestrial Fauna, and Inland Waters.

This Plan has been prepared in accordance with the Western Australian (WA) Environmental Protection Authority's (EPA) *Instructions: How to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans* (EPA, 2024). Where appropriate elements of this Plan have also been prepared in line with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) *Environmental Management Plan Guidelines* (DCCEEW, 2024).

1.1.1 Key Elements of the Proposal

The Proposal involves the construction and operation of up to 200 wind turbines and five substations (with a total capacity of up to 2.1 gigawatts (GW)), a 220 kilovolt (kV) transmission line and additional supporting infrastructure. Supporting infrastructure includes temporary infrastructure such as fuel storage, construction laydown areas and site offices, and permanent supporting infrastructure such as water infrastructure (i.e., turkey's nests, abstraction bores and pipelines), accommodation camps, operations support offices, communications towers, and a series of access roads and corridors for overhead electrical reticulation.

The Proposal involves disturbance of up to 2,331.36 hectares (ha) of vegetation (including 12.56 ha of cleared areas) within a 98,772.61 ha Development Envelope (DE).

Reference is made throughout this Plan to two areas within the DE associated with the Proposal infrastructure. These are the 'Generation Hub area' (covering the wind turbines and supporting infrastructure and the 'Transmission line area' (covering the transmission line corridor) as shown on Figure 1.

Works associated with construction and operation of the Proposal will include:

- Clearing of vegetation and topsoil removal,
- Geotechnical investigations,

- Water abstraction,
- Creation of temporary access tracks and turnaround location,
- Creation of permanent wind farm, substations, transmission line and additional supporting infrastructure,
- Stockpiling and laydown areas,
- Rehabilitation, and
- Ongoing maintenance activities.

1.2 Legislative context and definitions

Fortescue employees and contractors are obliged to comply with all relevant environmental legislation. Environment legislation directly relevant to this Plan is provided in Appendix A.

Definitions of terms and acronyms used throughout this Plan are provided in Appendix B.

1.3 Key Environmental Factors

This Plan addresses the following key environmental factors relevant to the Proposal (Table 1-1), including:

- Flora and Vegetation, and
- Terrestrial Fauna.

Additionally, other factors addressed in this Plan (Table 1-2) include:

- Inland Waters.

A summary of the existing environment, activities that may affect the factor, and any applicable site-specific environmental values for these factors are provided in Table 1-1 and Table 1-2.

Table 1-1 Overview of Key Environmental Factors, Existing Environment and Related Proposal Activities

Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
Flora and Vegetation	**Vegetation:** The DE is located within the Chichester subregion (PIL1) which is characterised as being dominated by scrub steppe on Archaean granite and basalt plains and ranges. *Acacia inaequilatera* is the most typical shrub, growing over *Triodia wiseana*, a hummock grass, with *Eucalyptus leucophloia* tree steppes on ranges (George *et al*., 2011). Pre-European vegetation mapping based on Beard (1975; 1990) describes six Vegetation Associations (VA) within the DE and their remaining extent. The DE is mostly comprised of Hummock grasslands (VA 93, VA 587 and VA 171) which make up 67.10%, 15.47% and 10.68% of the DE respectively. A two-phased detailed flora and vegetation assessment and supplementary assessment mapped a total of 38 vegetation units within the DE. The vegetation condition within the DE ranges mainly from 'Good' to 'Excellent' (total of 99.83% within the DE) (Focused Vision Consulting (FVC), 2024). No Threatened Ecological Communities or Priority Ecological Communities were recorded within the DE (FVC, 2024). FVC (2024) identified groundwater dependent vegetation (EcMa and EcTI) or potentially groundwater dependent (EvAtEb, EvCi and EvMITe) within the DE. These are considered riparian vegetation. **Flora** A total of 448 flora species from 143 genera and 49 families were recorded within the DE (FVC, 2024). FVC (2024) recorded 93 individuals of *Quoya zonalis,* listed under the EPBC Act as Endangered (as *Pityrodia* sp. Marble Bar (G. Woodman & D. Coultas GWDC Opp 4)) and listed as Endangered under the *Biodiversity Conservation Act 2016* (BC Act). FVC (2024) recorded seven Priority flora species, comprising of 827 individuals from within the DE. These included: • *Bulbostylis burbidgeae* – Priority 4, • *Cochlospermum macnamarae* – Priority 1, • *Euphorbia inappendiculata var. inappendiculate* – Priority 2,	• Clearing of flora and vegetation in the Indicative Disturbance Footprint (IDF) to accommodate Proposal infrastructure, including access roads, turbine pads, transmission lines and substations. • Temporary clearing for the laydown of wind turbine and transmission line infrastructure. • Water abstraction during construction and operational activities. • Movement of construction vehicles and machinery around the site.	• Temporary and permanent clearing of native vegetation, including permanent clearing of up to 1,290.68 ha of native vegetation in 'Good to Excellent' condition. • Clearing of groundwater dependent and riparian vegetation. • Clearing 249 individuals of one Priority 3 flora species (*Heliotropium murinum*). • Clearing 3.41 ha of habitat for Threatened flora species (*Quoya zonalis* – within 200 m of known records).

Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
	• *Heliotropium murinum* – Priority 3, • *Nicotiana umbratical* – Priority 3, • *Phyllanthus hebecarpus* – Priority 3, and • *Ptilotus mollis* – Priority 4. Of the flora species recorded by FVC (2024), 9 were identified as undescribed taxa within the DE. Of these, one (*Josephinia* sp. Mt Edgar Station (N.T. Burbidge 1194)) is considered potentially significant. Thirteen species of introduced flora were recorded within the DE (FVC, 2024). No Weeds of National Significance (WoNS) were recorded, however, one Declared Pest (DP) for the Pilbara region was recorded within the DE: **Calotropis procera* (Calotrope).		
Terrestrial Fauna	**Conservation Significant Fauna** Ecoscape (2024) mapped seven broad fauna habitats (excluding cleared areas) within the Survey Area. This includes drainage line/river/creek (major), drainage line/river/creek (minor), plain (stony/gibber), plain (boulders), plain (sand), hills/ranges/plateaux and rocky escarpments/ridges/mesa habitats. Based on previous records from the Survey Area and the likelihood of occurrence assessment (Ecoscape, 2024), the following conservation significant species were recorded, or allocated a high or medium likelihood of occurrence within the DE: • Recorded within the DE: o Northern Quoll (*Dasyurus hallucatus*) – EN[1] under the BC Act and the EPBC Act. o Pilbara Leaf-nosed Bat (PLNB) (*Rhinonicteris aurantia*, Pilbara form) – V under the BC Act and the EPBC Act. o Bilby (*Macrotis lagotis*) – V under the BC Act and EPBC Act. o Grey Falcon (*Falco hypoleucos*) – V under the BC Act and EPBC Act. o Oriental Pratincole (*Glareola maldivarum*) – M under the BC Act and EPBC Act.	• Habitat loss from direct clearing of terrestrial vertebrate fauna and SRE habitat in the IDF to accommodate the Proposal infrastructure, including access roads, turbine pads, transmission lines and substations. • Fauna mortality and disturbance due to operation of wind turbines, transmission line infrastructure and increased vehicle movement during the construction and operational phases.	• Clearing of fauna habitat within the DE, including permanent and temporary clearing. • Clearing of habitat critical for the survival of Threatened species (Curlew Sandpiper, Northern Quoll, Greater Bilby, Grey Falcon, PLNB, Pilbara Olive Python and Ghost Bat) and Priority and Migratory species.

[1] EN = Endangered; V = Vulnerable; CE = Critically Endangered; M = Migratory and P = Priority.

Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
	o Pilbara Olive Python (*Liasis olivaceus barroni*) – V under the BC Act and EPBC Act. o Western Pebble-mound Mouse (*Pseudomys chapmani*) – P4 listed by DBCA. o Brush-tailed Mulgara (*Dasycercus blythi*) – P4 listed by DBCA. o Peregrine Falcon (*Falco peregrinus*) – OS by DBCA. • High likelihood of occurrence within DE: o Ghost Bat (*Macroderma gigas*) – V under the BC Act and EPBC Act. o Pacific Swift (*Apus pacificus*) – M under the BC Act and EPBC Act. o Long-tailed Dunnart (*Sminthopsis longicaudata*) – P4 listed by DBCA. o Spectacled Hare-wallaby (*Lagorchestes conspicillatus*) – P4 listed by DBCA. o Gane's Blind Snake (*Anilios ganei*) – P1 listed by DBCA. • Medium likelihood of occurrence within DE: o Night Parrot (*Pezoporus occidentalis*) – CE under the BC Act and E under the EPBC Act. o Common Greenshank (*Tringa nebularia*) – M under the BC Act and E and M under the EPBC Act. o Common Sandpiper (*Actitis hypoleucos*) – M under the BC Act and EPBC Act. o Sharp-tailed Sandpiper (*Calidris acuminata*) – M under the BC Act and V and M under the EPBC Act. o Oriental Plover (*Charadrius veredus*) – M under the BC Act and EPBC Act. o Wood Sandpiper (*Tringa glareola*) – M under the BC Act and EPBC Act. o Short-tailed Mouse (*Leggadina lakedownensis*) – P4 under the BC Act. **Short Range Endemic Invertebrates** A total of 2,449 specimens in the Short Range Endemic (SRE) target groups were collected during the field survey, dominated by pseudoscorpions (1,284 specimens) and slaters (735 specimens). Of these, 99 morphospecies were potential SREs; 15 were widespread and 19 were not assessed; but belong to higher taxonomic ranks or species-complexes that contain SREs. A total of 91 species records were restricted to only the survey area, including:	• Habitat fragmentation and behavioural change due to the long-term (30 years) operation of the wind farm, which includes the turbine movements and operation of the transmission line infrastructure. • Behavioural change resulting from disturbance associated with general construction and operational-related activities (i.e., artificial light, noise, increase of human activities).	

Key Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
	• Spiders (Araneae – 2 species), • Harvestmen (Opiliones – 5 species), • Pseudoscorpions (Pseudoscorpiones – 41 species), • Soil centipedes (Geophilomorpha – 9 species), • Stone centipedes (Lithobiomorpha – 1 species), • Tropical centipedes (Scolopendromorpha – 8 species), • Keeled millipedes (Polydesmida – 2 species), • Two-pronged bristletails (Diplura – 1 species), • Slaters (Isopoda – 17 species), and • Land snails (Eupulmonata – 1 species). One species collected during the field survey, the *Abydos Antichiropus* Millipede, *Antichiropus forcipatus*, is a Department of Biodiversity Conservation and Attractions (DBCA) Priority 1 listed species. The survey area was located within four broad habitat types. “Grassland on plain/slope” and “Woodland in drainage line” habitat types yielded the most SRE taxa, whereas “Woodland along rockface/gully” and “Woodland on plain/slope” had the fewest records. **Introduced Fauna** The following introduced fauna species were recorded within the DE and/or surrounds (Ecoscape, 2024): • European Cattle (Bos primigenius taurus), • Dromedary Camel (*Camelus dromedarius*), • Cat (Felis catus), • Dog/Dingo (*Canis familiaris*), and • Rabbit (Oryctolagus cuniculus).		

Table 1-2 Overview of Other Environmental Factors, Existing Environment and Related Proposal Activities

Other Environmental Factor	Existing Environment	Related Proposal Activities	Site-Specific Environmental Values
Inland Waters	**Surface Water** The DE is located within the Pilbara Surface Water Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DWER, 2018a), but is not within any Public Drinking Water Source Areas (DWER, 2018b). The DE occurs within the De Grey River Basin and overlaps three catchments: 1. Coongan River, 2. Shaw River, and 3. Strelley River. Twelve named major and minor non-perennial watercourse intersect the DE. These watercourses include the Coongan River (Major River), the Shaw River (Mainstream) and the Yandicoogina Creek (a tributary of Talga River). The catchments within the Generation Hub area of the DE generally drain in a north-westerly direction towards the Coongan/Talga Rivers. The main watercourses within the Transmission Line area include Coongan River and Shaw River which are ephemeral and flow in a northerly direction before discharging into the De Grey River. Flow gauging data across the region indicates the Coongan River (and creeks nearby) are ephemeral with runoff limited to significant rainfall events (Fortescue, 2024b). Generally, over three quarters of the annual streamflow occurs during January to March with local rivers usually drying up in July or August.	• Clearing of vegetation • Excavation • Alteration of surface water flows • Storage, handling and disposal of hazardous materials and waste.	• Disturbance of Ephemeral creeks. • Impacting water quality.

1.4 Potential Impacts

1.4.1 Flora and Vegetation

Implementation of the Proposal would result in the permanent clearing of up to 1,290.68 ha of native vegetation.

Potential **direct** impacts to Flora and Vegetation in relation to the Proposal have been identified as:

- Clearing up to 2,318.80 ha of native vegetation, including permanent clearing of 1,290.68 ha of vegetation in 'Good to Excellent' condition,
- Clearing of up to 38.63 ha of groundwater dependent and riparian vegetation,
- Clearing of up to 249 individuals of one Priority 3 flora species (*Heliotropium murinum*), and
- Clearing up to 3.41 ha of habitat for Threatened flora species (*Quoya zonalis* – within 200 m of known records).

Potential **indirect** impacts to Flora and Vegetation in relation to the Proposal include:

- Fragmentation of conservation significant flora species habitat,
- Edge effects on three conservation significant flora species,
- Impacts on groundwater dependent vegetation as a result of groundwater abstraction,
- Introduction or spread of weed species,
- Increase of dust deposition, and
- Increased risk of bushfire incidents.

1.4.2 Terrestrial Fauna

Potential **direct** impacts to Terrestrial Fauna in relation to the Proposal have been identified as:

- Clearing of fauna habitat within the DE, including permanent and temporary clearing (Table 1-3),
- Clearing of habitat critical for the survival of Threatened species (Curlew Sandpiper, Northern Quoll, Greater Bilby, Grey Falcon, PLNB, Pilbara Olive Python and Ghost Bat) and Priority and Migratory species (Table 1-4),
- Bird and bat collision with wind turbines or transmission lines, resulting in injury or mortality,

- Electrocution from transmission power lines causing avian fauna mortality, and
- Fauna injury or mortality from vehicle collision during the construction and operational phase.

The permanent and temporary clearing of fauna habitat within the IDF is described in Table 1-3. Clearing of potential habitat for threatened and priority species is summarised in Table 1-4.

Potential **indirect** impacts to terrestrial fauna in relation to the Proposal include:

- Introduction of invasive species (weeds etc),
- Trophic cascade effect predator-prey dynamic and ecosystem function,
- Potential increase of artificial nesting or use of artificial features as habitat,
- Disruption to behaviour of nocturnal fauna due to artificial light during construction and operational activities,
- Pollution (dust, light, noise and vibration), and
- Increased risk of bushfires associated with construction activities and operation of new electrical infrastructure.

Table 1-3: Clearing of Fauna Habitat within the Indicative Disturbance Footprint

Habitat	Permanent Clearing (ha)	Temporary Clearing (ha)	Total IDF (ha)
Plain (stony/gibber)	30.37	34.97	65.34
Hills/ranges/plateaux	141.77	141.76	283.53
Plain (boulders)	534.26	388.71	922.97
Drainage line/river/creek (major)	15.30	15.04	30.34
Drainage line/river/creek (minor)	45.54	40.90	86.44
Plain (sand)	527.39	404.73	932.12
Rocky escarpments/ ridges/mesa	3.25	4.24	7.49
Total*	**1,297.88**	**1,030.35**	**2,328.239**

**Total not including existing cleared areas. These numbers differ slightly from the total clearing reported for flora and vegetation due to the differences in habitat and vegetation mapping, i.e. some areas of Plain (sand) habitat mapped as cleared for vegetation.*

[This page has been left blank intentionally]

Table 1-4: Threatened Species Habitat Clearing within the Development Envelope

Species	Habitat Importance	Total Disturbance Footprint (ha)
Threatened and Other Specially Protected Fauna Species		
Night Parrot (*Pezoporus occidentalis*)	Plain (sand) – supporting habitat	226.27
	Plain (boulders) – supporting habitat	175.06
	Drainage line/river/creek (minor) – supporting habitat	26.37
	Total Night Parrot supporting habitat	**427.70**
Northern Quoll (*Dasyurus hallucatus*)	Rocky escarpments/ ridges/mesa – critical habitat	7.49
	Hills/ranges/plateaux – critical habitat	283.53
	Plain (boulders) – critical habitat	922.97
	Drainage line/river/creek (major) – supporting habitat	30.34
	Total Northern Quoll critical habitat	**1,213.99**
	Total Northern Quoll critical supporting habitat	**1,958.97**
	Total Northern Quoll supporting habitat	**30.34**
Bilby (*Macrotis lagotis*)	Plain (stony/gibber) – critical habitat	65.34
	Plain (boulders) – critical habitat	922.97
	Plain (sand) – critical habitat	932.12
	Drainage line/river/creek (major) – critical habitat	30.34
	Drainage line/river/creek (minor) – critical habitat	86.44
	Total Bilby critical habitat	**2,037.21**
Grey Falcon (*Falco hypoleucos*)	Drainage line/river/creek (major) – critical habitat	30.34
	All other habitats – supporting habitat	2,297.89
	Total Grey Falcon critical habitat	**30.34**

Species	Habitat Importance	Total Disturbance Footprint (ha)
	Total Grey Falcon supporting habitat	**2,297.89**
PLNB (*Rhinonicteris aurantia* Pilbara form)	Rocky escarpments/ ridges/mesa – critical habitat	7.49
	Drainage line/river/creek (major) – critical habitat	30.34
	All other habitats – supporting habitat	2,290.40
	Total PLNB critical habitat	**37.83**
	Total PLNB supporting habitat	**2,290.40**
Pilbara Olive Python (*Liasis olivaceous barroni*)	Hills/ranges/plateaux – critical habitat	283.53
	Rocky escarpments/ ridges/mesa – critical habitat	7.49
	Drainage line/river/creek (major) – critical habitat	30.34
	Total Pilbara Olive Python critical habitat	**321.36**
Ghost Bat (*Macroderma gigas*)	Rocky escarpments/ ridges/mesa – critical habitat	7.49
	Drainage line/river/creek (major) – critical habitat	30.34
	All other habitats – supporting habitat	2,290.40
	Total Ghost Bat critical habitat	**37.83**
	Total Ghost Bat supporting habitat	**2,290.40**
Peregrine Falcon (other specially protected) (*Falco peregrinus*)	Rocky escarpments/ ridges/mesa – critical habitat	7.49
	All other habitats – supporting habitat	2,320.74
	Total Peregrine Falcon critical habitat	**7.49**
	Total Peregrine Falcon supporting habitat	**2,320.74**
Priority Fauna Species		
Western Pebble-mound Mouse (*Pseudomys chapmani*)	Plain (stony/gibber) – supporting habitat	65.34
	Hills/ranges/plateaux – supporting habitat	283.53

Species	Habitat Importance	Total Disturbance Footprint (ha)
	Rocky escarpments/ ridges/mesa – supporting habitat	7.49
Gane's Blind Snake (*Anilios ganei*)	Plain (stony/gibber) – supporting habitat	65.34
	Hills/ranges/plateaux – supporting habitat	283.53
	Rocky escarpments/ ridges/mesa – supporting habitat	7.49
Spectacled Hare-wallaby (*Lagorchestes conspicillatus leichardti*)	Plain (sand) – supporting habitat	932.12
	Plain (boulders) – supporting habitat	922.97
Brush-tailed Mulgara (*Dasycercus clythi*)	Plain (sand) – supporting habitat	932.12
	Plain (boulders) – supporting habitat	922.97
Long-tailed Dunnart (*Sminthopsis longicaudata*)	Hills/ranges/plateaux – supporting habitat	283.53
	Rocky escarpments/ridges/mesa – supporting habitat	7.49

1.4.3 Other Factors

1.4.3.1 Inland Waters

The potential impacts to surface waters include:

- Changes in water level: There is potential for changes in water level upstream of the proposed wind turbines. It is expected that due to the expansive size of the waterway crossings and the relatively small size of the structures, these changes in water level will be localised and minor.
- Scour potential: There is potential for scour to occur at structures located within the flood extent. The locations of the poles are outside of the main flow path, which limits the potential for scour in small to medium events. Scour potential in larger events can be managed through the use of rock protection and other design elements.
- Alterations to flow paths: Due to the relatively small footprint of the structure on the broader floodplain, it is unlikely that there will be significant changes to the flow paths.
- Vegetation impact: The current locations of the proposed structure are typically outside of areas of high vegetation density. It is unlikely that there will be a significant impact to riparian vegetation.
- Water Quality: Significant impacts to water quality are not expected as the transmission line infrastructure is located in the 1% AEP flood extent. Increased sediment loads may occur as a result of construction activities, however these will be adequately managed through standard construction phase erosion and sediment control principles.

Potential impacts in relation to groundwater are covered through regulation by other Decision-Making Authorities with regard to permitting and licensing requirements (i.e. 26D and 5C licenses and Permits to Interfere with Bed and Banks under the *Rights In Water and Irrigation Act 1914* (RIWI Act)). A Groundwater Operating Strategy (GWOS) conditioned under Section 5C of the RIWI Act will ensure any potential adverse impacts to identified receptors (Other Groundwater Users; Groundwater Dependent Ecosystems; and Subterranean Fauna) will be appropriately managed such that no significant impacts as a result of groundwater abstraction will occur.

1.5 Condition requirements

The Proposal is currently being assessed through an Environmental Review Document (ERD) under Part IV of the *Environmental Protection Act* 1986 (EP Act). This Plan outlines the

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 20 of 53

Fortescue's monitoring and management approach and has been prepared to provide supporting information to this application. Condition requirements have therefore not yet been issued.

1.6 Rationale and approach

This section provides a summary of the rationale and approach to developing the mitigation and management strategies including:

- Management objectives and environmental outcomes,
- Survey and study findings,
- Key assumptions and uncertainties, and
- Rationale for choice of indicators and/or management actions.

This Plan adopts a combination of outcome-based provisions and objective-based (management) provisions. Outcome-based provisions relate to monitoring and applied when sufficient information exists to establish and evaluate specific measurable outcomes. Objective-based provisions relate to the achievement of environmental factors through the implementation of management actions and targets. Objectives-based provisions are applied when there is insufficient information or a level of uncertainty not allowing specific outcomes and measurable criteria.

The outcomes and objectives applicable for the Proposal and rationale is detailed in Table 1-5.

Table 1-5: Environmental Outcomes and Objectives and Rationale

Provision	Rationale
Flora and Vegetation	
Outcome 1: Clearing no more than 2,318.80 ha of native vegetation in 'Good or better' condition, of which no less than 1,030.35 ha will be rehabilitated.	An outcome based provision was selected as the maximum extent of clearing of native vegetation is measurable and reportable. The maximum clearing extent has been calculated based on the indicative disturbance footprint encompassing all areas of disturbance required to construct and operate the Proposal. The trigger criteria has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.
Outcome 2: No more than 249 individuals of the Priority 3 species *Heliotropium murinum* will be cleared.	An outcome-based provision was selected as the estimated maximum number of individuals of flora species to be cleared is measurable and reportable. The maximum number of individuals to be cleared has been calculated

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 21 of 53

Provision	Rationale
	based on known records within the indicative disturbance footprint. The trigger criteria selected has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.
Outcome 3: No more than 38.35 ha of groundwater dependent vegetation will be cleared.	An outcome based provision was selected as the maximum extent of clearing of groundwater dependent vegetation is measurable and reportable. The maximum clearing extent has been calculated based on the indicative disturbance footprint within the following vegetation types: EcMa, EcTl, EvAtEb, EvCi and EvMlTe. The trigger criteria selected has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.
Outcome 4: No vegetation associations will be reduced to below the 'threshold level' of 30% of their pre-European extent.	An outcome based provision was selected as the maximum required extent of clearing of pre-European vegetation is measurable and reportable. The maximum clearing extent has been calculated based on the indicative disturbance footprint within each vegetation type, encompassing all areas of disturbance required to construct and operate the Proposal. The trigger criteria has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.
Terrestrial Fauna	
Outcome 1: Clearing no more than 7.49 ha of rocky escarpments/ridges/mesa habitat which is critical habitat for the Northern Quoll, Pilbara Leaf-nosed Bat (PLNB), Pilbara Olive Python, Ghost Bat and Peregrine Falcon.	An outcome based provision was selected as the maximum extent of clearing of these fauna habitats is measurable and reportable. The maximum clearing extent has been calculated based on the indicative disturbance footprint encompassing all areas of disturbance required to construct and operate the Proposal. The trigger criteria has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.
Outcome 2: Clearing no more than 283.53 ha of hills/ranges/plateaux which is critical habitat for the Northern Quoll and Pilbara Olive Python.	
Outcome 3: Clearing no more than 922.97 ha of plain (boulders) which is critical habitat for the Northern Quoll and the Bilby.	
Outcome 4: Clearing no more than 30.34 ha of drainage line/river/creek (major) which is critical habitat for the Bilby and Grey Falcon, PLNB, Pilbara Olive Python and Ghost Bat and supporting habitat for the Northern Quoll.	

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 22 of 53

Provision	Rationale
Outcome 5: Clearing no more than 65.34 ha of plain (stony/gibber), 932.12 ha of plain (sand) and 86.44 ha of drainage line/river/creek (minor) habitats which are critical habitat for the Bilby.	
Outcome 6: Avoid disturbance of and ensure no impacts to Ghost Bat and the structural integrity of known Ghost Bat caves. No works to take place within 100 m of known Ghost Bat caves.	An outcome based provision was selected as the required 100 m 'No-Go' areas of known Ghost Bat caves is measurable and reportable. The trigger criteria has been set at a conservative level to indicate an approach towards the threshold criteria. This allows for actions to be implemented in advance to minimise the risk of exceeding the threshold criteria and compromising the environmental outcome.
Inland Waters	
Objective 1: Maintain surface hydrological regime.	An objective based provision was selected as the impact from construction and operations can be monitored and compared to existing conditions. Management actions have been set to meet the required objective management targets.
Objective 2: Minimise impacts to inland waters from construction activities.	

1.6.1 Survey and Study Findings

Several studies and surveys were completed to support the development and operation of the Proposal. An overview of these studies and key findings are discussed within Table 1-6.

Table 1-6: Overview of surveys and studies related to the Proposal

Reference	Survey/Study Type
Flora and Vegetation	
East Pilbara Generation, Detailed Flora and Vegetation Survey (Focused Vision Consulting (FVC), 2024).	Detailed flora and vegetation surveys and a targeted flora survey. **Location:** Study Area comprised 137,855 ha and covers a larger extent than the DE (except for 7,011.60 ha which was unsurveyed and has been extrapolated by a suitably qualified ecologist).
Terrestrial Fauna	
Detailed Terrestrial Vertebrate Fauna Survey – East Pilbara Generation Hub (Ecoscape, 2024).	Detailed terrestrial vertebrate fauna survey and targeted searches for conservation listed fauna species. This assessment incorporated data collected during eight field surveys between April 2022 to May 2024 **Location:** Survey Area comprised of 142,467.2 ha and covers a larger extent than the DE.
Bird and Bat Site Utilisation Survey (Spectrum, 2024).	Seasonal bird and bat utilisation surveys. Over four survey events were undertaken to collect bird and bat species data suitable for informing potential impacts, including the risk of collision with turbine blades. **Location**: Within the Generation Hub area within the DE.

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 23 of 53

Reference	Survey/Study Type
Short-Range Endemic Terrestrial Invertebrate Survey (HBI, 2024).	Detailed short-range endemic terrestrial invertebrate survey. **Location**: The Study Area of this assessment extends over 144,825.25 ha over an area larger than the DE.
Other Factors	
Baseline hydrological assessment (Advisian, 2022).	Assessed the existing surface water flow behaviour. **Location:** Within the DE
Baseline hydrology study and impact assessment (Worley, 2024).	This assessment presented the baseline hydrology study and the qualitative impact assessment conducted for the transmission line corridor to analyse placement of structure systems. **Location:** Within the DE
Post development hydrological assessment (Fortescue, 2024b).	Evaluated the potential impacts of the Proposal design and layout for the existing surface water flow regime. **Location:** Within the DE

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 24 of 53

1.6.2 Key assumptions and uncertainties

Key assumptions and uncertainties include:

- Baseline surveys have accurately recorded the presence of conservation significant species, vegetation and habitat types within the DE.
- Protection of critical habitat will enable persistence of conservation significant fauna within the DE.
- Limited studies and research on the sensitivity of conservation significant fauna to increases in dust, noise and vibration

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 25 of 53

[This page has been left blank intentionally]

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 26 of 53

2 MANAGEMENT PLAN COMPONENTS

2.1 Management Provisions

A series of outcome and objective management provisions have been developed to mitigate environmental impacts that could potentially be caused by implementation of the Proposal.

Outcome-based provisions are detailed for Flora and Vegetation in Table 2-1 and Terrestrial Fauna in Table 2-2. Objective-based provisions are detailed for Inland Waters in Table 2-3. Note additional standard mitigation measures to minimise potential impacts from the Proposal are detailed in the EPA and EPBC referral supporting documents. Only those management actions related to the Terrestrial Fauna, and Flora and Vegetation outcomes, and Inland Waters objectives, are presented within this Plan.

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 27 of 53

Environmental Management Plan AUSS0003-0000-EN-PLN-0001 Rev 0
This document is uncontrolled when printed. Page 28 of 53

Table 2-1 Measures to address the Flora and Vegetation environmental outcomes

EPA factor and objective: Flora and Vegetation – "*To protect flora and vegetation so that biological diversity and ecological integrity are maintained.*"

Outcomes:

- **Clearing no more than 2,318.80 ha of native vegetation in 'Good or better' condition, of which no less than 1,030.35 ha will be rehabilitated.**
- **No more than 249 individuals of the Priority 3 species *Heliotropium murinum* will be cleared.**
- **No more than 38.63 ha of groundwater dependent vegetation will be cleared.**
- **No vegetation associations will be reduced to below the 'threshold level' of 30% of their pre-European extent.**

Key Environmental Values: Vegetation in 'Good to Excellent' condition; Groundwater dependent and riparian vegetation; Habitat for conservation significant flora; National, State or Reginal level vegetation; and Conservation Significant Flora species.

Key Impacts and Risks: Clearing of native vegetation; clearing of conservation significant flora; introduction and spread of weeds;

- **Clearing no more than 2,318.80 ha of native vegetation in 'Good or better' condition, of which no less than 1,030.35 ha will be rehabilitated.**
- **No more than 249 individuals of the Priority 3 species *Heliotropium murinum* will be cleared.**
- **No more than 38.63 ha of groundwater dependent vegetation will be cleared.**
- **No vegetation associations will be reduced to below the 'threshold level' of 30% of their pre-European extent.**

Environmental criteria	Response actions	Monitoring	Timing / Frequency of Monitoring	Reporting
Trigger Criterion: • 90% of permitted clearing extent for any specified vegetation / priority flora is reached. **Threshold Criterion:** • Permitted clearing extent for any specified vegetation type / priority flora is reached.	**Trigger level actions:** • Undertake review of remaining clearing to ensure compliance with permitted clearing extents will be achieved – calculate remaining clearing required to ensure within threshold limits. • Communicate extents of clearing for each vegetation type / priority flora to key personnel, noting percentage cleared to date. This includes no adverse impacts to priority flora. **Threshold contingency actions:** • Clearing will cease immediately. • Environmental incident will be recorded and investigated if threshold is exceeded. • DWER will be notified along with investigation report if threshold is exceeded. • Rehabilitation of any clearing exceedance areas will be undertaken.	• All clearing areas will be checked and confirmed post-clearing. Site inspection will be undertaken prior to and following clearing to confirm clearing is appropriately demarcated. Disturbance will be managed using Fortescue's Land Use Certificate system (Fortescue, 2023b).	• Weekly during clearing activities.	• Internal construction reporting. • Ground disturbance permit signed off by Fortescue Superintendent. • Annual Compliance Assessment Reports (CAR) are required to be submitted in accordance with EPA's *Post Assessment Guideline for Preparing a Compliance Assessment Report (CAR), Post Assessment Guideline No. 2*. • In the event that trigger criteria were exceeded during the reporting period, the CAR will include a description of the effectiveness of the contingency actions that have been implemented to manage the impact and any adaptive management measures applied as a result of the exceedance.
		• Ground survey and use of aerial imagery of clearing areas and comparison to the IDF.	• Quarterly when clearing has occurred.	
		• Under Fortescue's environmental management framework, performance against compliance targets are monitored and internally reported to management on a monthly basis.	• Monthly.	
• **Clearing no more than 2,318.80 ha of native vegetation in 'Good or better' condition, of which no less than 1,030.35 ha will be rehabilitated.**				
Trigger Criterion: • Monitoring of rehabilitation finds that temporary cleared areas are not meeting rehabilitation completion criteria of pre-disturbance conditions within 3 years post-construction. **Threshold Criterion:** • Monitoring of rehabilitation finds that temporary cleared areas have not meet rehabilitation completion criteria within 5 years post-construction.	**Trigger level actions:** • Undertake rehabilitation of outstanding temporarily cleared areas to ensure compliance with pre disturbance conditions will be achieved. **Threshold contingency actions:** • Immediately carry out rehabilitation works in outstanding temporarily cleared areas and monitor against completion criteria.	• Ground survey and use of aerial imagery of clearing areas and comparison to the IDF. • Monitoring of rehabilitation areas to be undertaken in accordance with Fortescue's standard procedure – Rehabilitation and Revegetation Monitoring Procedure (Reference: 45-GU-EN-0009).	• Bi-annual ground surveys. • Annual monitoring basis for the first three years to determine initial establishment, then on a biennial basis to determine trajectory towards reference sites and established completion criteria.	• Annual compliance reporting. • Maintain records of all rehabilitation.

Table 2-2 Measures to address Terrestrial Fauna environmental outcomes

WA EPA factor and objective: Terrestrial Fauna – *"To project terrestrial fauna so that biological diversity and ecological integrity are maintained."*

Outcomes:

- **Clearing no more than 7.49 ha of rocky escarpments/ridges/mesa habitat which is critical habitat for the Northern Quoll, Pilbara Leaf-nosed Bat (PLNB), Pilbara Olive Python, Ghost Bat and Peregrine Falcon.**
- **Clearing no more than 283.53 ha of hills/ranges/plateaux which is critical habitat for the Northern Quoll and Pilbara Olive Python.**
- **Clearing no more than 922.97 ha of plain (boulders) which is critical habitat for the Northern Quoll and the Bilby.**
- **Clearing no more than 30.34 ha of drainage line/river/creek (major) which is critical habitat for the Bilby and Grey Falcon, PLNB, Pilbara Olive Python and Ghost Bat and supporting habitat for the Northern Quoll.**
- **Clearing no more than 65.34 ha of plain (stony/gibber), 932.12 ha of plain (sand) and 86.44 ha of drainage line/river/creek (minor) habitats which are critical habitat for the Bilby.**
- **Avoid disturbance of and** ensure **no impacts to** Ghost Bat and **the structural integrity of known Ghost Bat caves. No works to take place within 100 m of known Ghost Bat caves.**

Key Environmental Values: Habitat for conservation significant and priority fauna; and Conservation signific ant and priority fauna.

Key Impacts and Risks: Fauna habitat loss and injury through direct and indirect impacts.

- **Clearing no more than 7.49 ha of rocky escarpments/ridges/mesa habitat which is critical habitat for the Northern Quoll, Pilbara Leaf-nosed Bat (PLNB), Pilbara Olive Python, Ghost Bat and Peregrine Falcon.**
- **Clearing no more than 283.53 ha of hills/ranges/plateaux which is critical habitat for the Northern Quoll and Pilbara Olive Python.**
- **Clearing no more than 922.97 ha of plain (boulders) which is critical habitat for the Northern Quoll and the Bilby.**
- **Clearing no more than 30.34 ha of drainage line/river/creek (major) which is critical habitat for the Bilby and Grey Falcon, PLNB, Pilbara Olive Python and Ghost Bat and supporting habitat for the Northern Quoll.**
- **Clearing no more than 65.34 ha of plain (stony/gibber), 932.12 ha of plain (sand) and 86.44 ha of drainage line/river/creek (minor) habitats which are critical habitat for the Bilby.**

Trigger Criteria / Threshold Criteria	Trigger Level Actions / Threshold Contingency Actions	Monitoring	Timing / Frequency of Monitoring	Reporting
Trigger Criterion: • 90% of permitted clearing extent for any specified fauna habitat is reached. **Threshold Criterion:** • Permitted clearing extent for any specified fauna habitat is reached.	**Trigger level actions:** • Undertake review of remaining clearing to ensure compliance with permitted clearing extents will be achieved – calculate remaining clearing required to ensure within threshold limits. • Communicate extents of clearing for each specified fauna habitat type to key personnel, noting percentage cleared to date. **Threshold contingency actions:** • Clearing will cease immediately. • Environmental incident will be recorded and investigated if threshold is exceeded. • DWER will be notified along with investigation report if threshold is exceeded. • Rehabilitation of any clearing exceedance areas will be undertaken. This will be undertaken in accordance with Fortescue's standard procedures.	• Regular construction area inspections to visually check / review clearing boundaries. • All clearing areas will be checked and confirmed post-clearing. Site inspection will be undertaken prior to and following clearing to confirm clearing is appropriately demarcated. Disturbance will be managed using Fortescue's Land Use Certificate system (Fortescue, 2023b).	• Weekly during clearing activities. • Annual for compliance reporting.	• Internal construction reporting. • Ground disturbance permit signed off by Fortescue Superintendent. • Annual Compliance Assessment Reports (CAR) are required to be submitted in accordance with EPA's *Post Assessment Guideline for Preparing a Compliance Assessment Report (CAR), Post Assessment Guideline No. 2*. • In the event that trigger criteria were exceeded during the reporting period, the CAR will include a description of the effectiveness of the contingency actions that have been implemented to manage the impact and any adaptive management measures applied as a result of the exceedance. • Maintain records of all rehabilitation.
		• Ground survey and use of aerial imagery of clearing areas and comparison to the IDF.	• Bi-annually when clearing has occurred.	
		• Under Fortescue's environmental management framework, performance against compliance targets are monitored and internally reported to management on a monthly basis.	• Monthly.	
		• Monitoring of Rehabilitation areas in line with Fortescue's 'Rehabilitation and Revegetation Monitoring Guideline' (Ref: 45-GU-EN-0009)	• Annual basis for the first three years to determine initial establishment, then on a biennial basis to determine trajectory towards reference sites and established completion criteria.	
• **Avoid disturbance of and ensure no impacts to Ghost Bat and the structural integrity of known Ghost Bat caves. No works to take place within 100 m of known Ghost Bat caves.**				
Trigger Criterion: • Construction activities (i.e. clearing or blasting) within 50 m of exclusion zones.	**Trigger level actions:** • Demarcation of exclusion zones to be checked to ensure it aligns with approved clearing extents. • A review of clearing to date will be completed to establish if any unapproved clearing has occurred.	• Regular construction area inspections to visually check / review construction boundaries.	• Weekly during clearing activities.	• Internal construction reporting. • Ground disturbance report signed off by Fortescue Superintendent.
		• Ground survey and use of aerial imagery of construction areas and comparison to the IDF.	• Monthly when clearing has occurred.	• Annual compliance reporting.

Trigger Criteria / Threshold Criteria	Trigger Level Actions / Threshold Contingency Actions	Monitoring	Timing / Frequency of Monitoring	Reporting
Threshold Criterion: • Construction activities in exclusion zones occurs.	• Construction will not recommence until demarcation requirements are confirmed. **Threshold contingency actions:** • Construction in impacted areas will cease immediately. • Environmental incident will be recorded, and the cause investigated. • DWER will be notified along with the provision of an investigation report as part of the annual compliance reporting.			

[This page has been left blank intentionally]

Table 2-3 Measures to address Inland Waters objective-based

WA EPA factor and objective: Inland Waters – *"To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected."* **Objectives:** • **Maintain surface hydrological regime.** • **Minimise impacts to inland waters from construction activities.** **Key Environmental Values: Surface water flows and water quality.** **Key Impacts and Risks: Degradation of surface water and groundwater quality.**			
Objective-based			
Management Action	**Management Target**	**Monitoring**	**Reporting**
• A surface water management plan will be developed and implemented to manage flood risk and minimise soil erosion and the potential for the transport of sediment to downstream waters during the construction phase.	• Surface water management plan to be prepared prior to construction.	• Internal audit.	• Audit report (internal).
• Construction and maintenance of the waterway crossings will be scheduled outside of the wet season where possible, or for a period when rainfall and runoff are unlikely. • Erosion control measures will be installed at the inlet and outlet of the culvert structures to minimise the risk of bed and bank erosion and local scour, and to prevent undermining of the structures. • The floodway batters and driving surface will be armoured to minimise erosion and scour as water flows over the road.	• No damage to waterways outside of construction areas, arising from construction works.	• Pre- and post-construction photo monitoring points on drainage lines downstream of DE. • Visual inspection of temporary erosion protection measures. • Visual inspection of downstream areas following major storm events and remediating if required.	• Incident report for major storm event, wash out or downstream impacts.
• Permit to be in place prior to interference with the bed or banks of a watercourse under the RIWI Act.	• Permit obtained prior to any disturbance of bed or banks of a watercourse.	• Internal audit.	• Audit report (internal).
• Clearing of riparian vegetation will be avoided and minimised where possible.	• No degradation to riparian systems arising from vegetation clearing activities.	• All clearing areas will be checked and confirmed post-clearing. Site inspection will be undertaken prior to and following clearing to confirm no-go areas are appropriately demarcated. Disturbance will be managed using Fortescue's Land Use Certificate system (Fortescue, 2023b). • Ground survey and use of aerial imagery of clearing areas and comparison to the IDF.	• Ground disturbance permit signed off by Fortescue Superintendent. • Annual compliance reporting.

[This page has been left blank intentionally]

3 MONITORING

An effective long-term monitoring program is adaptive. Innovations in monitoring techniques and methods should be incorporated into the program design over time. This would, however, be dependent on, and driven by the quality and quantity of data collected from site. Any changes will be detailed in the annual monitoring report and captured in the next revision of the Plan.

Key monitoring actions have been identified to monitor the potential impacts of the Proposal to Flora and Vegetation, Terrestrial Fauna and associated habitat, and Inland Waters. Monitoring will be undertaken by suitably qualified individuals for the methodology type specified. The proposed monitoring program will be developed as the approval process progresses and key monitoring actions associated with the key environmental factor outcomes for the Proposal are identified in Table 2-1 and Table 2-2, and Inland Waters objectives in Table 2-3.

3.1 Data handling and statistical analysis

Data will be handled in accordance with the data handling protocol established as part of the annual monitoring tender. The protocol will include the requirements as to data storage and protection, data extraction, quality control, analysis, interpretation, reporting and presentation. The protocol will also directly reference and align with the requirements detailed in *Document Control, Information Management* (100-ST-DC-001) and *Geographic Information Systems and Raw Data Guidelines* (100-GU-EN-0009).

Statistical analysis of data will be undertaken to compare baseline values of parameters to each subsequent monitoring event, and between indirect impact sites values to reference sites values (where possible). Comparisons should be replicable.

Statistical (univariate and multivariate) analysis methods for environmental monitoring will be undertaken where data permits. Where data capture allows, analysis will include univariate or multivariate analysis, as deemed appropriate, to determine whether there are any statistical variation in monitoring data. Robust statistical analysis shall be completed for all programs. Error analysis shall also be completed to understand the accuracy of the monitoring results.

[This page has been left blank intentionally]

4 ADAPTIVE MANAGEMENT AND REVIEW

Fortescue will implement adaptive management practices to learn from the implementation of mitigation measures, monitoring and evaluation against criteria, to more effectively meet the environmental outcome. Adaptive management practices that will be assessed for the management and monitoring program as part of this approach include as required:

- Evaluation of the monitoring program, data and comparison to baseline data and reference sites on an annual basis to verify whether responses to project activities are the same or similar to predictions.
- Evaluation of assumptions and uncertainties of management and monitoring program.
- Re-evaluation of the risk assessment and revision of risk-based priorities as a result of monitoring outcomes.
- Review of data and information gathered over the review period that has increased understanding of site environment in the context of the regional ecosystem.
- Review of management actions as the project matures and new management measures and technologies become available that may be more effective for environmental management.
- Assessment of changes which are outside the control of the project and the management measures identified (i.e., a new project within the area or region; regional change affecting vegetation health management).
- Evaluation and introduction of new or different monitoring methods due to changes in technology.

The overarching monitoring program will be technically assessed and reviewed every five years. The main objective of the assessment and review will be to ensure that the methods, parameters and frequency used are considerate and appropriate to the findings of the monitoring program. If no criteria are exceeded (detailed in Section 0) after five years, the frequency of monitoring will be reduced to a frequency supported by the review.

In addition, this Plan may be reviewed based on regulators (EPA and/or DCCEEW) and decision-making authorities comments during the Proposal approval process.

[This page has been left blank intentionally]

5 STAKEHOLDER CONSULTATION

Fortescue has undertaken stakeholder consultation whereby landowners, regulators and other relevant parties (i.e., Nyamal) have been consulted with regarding investigation and design throughout the environmental approval process.

Table 5-1 will be updated following receipt of stakeholder comments as a result of the review and approval process.

Table 5-1 Stakeholder consultation

Stakeholder	Stakeholder comments/advice received on key environmental issues	Fortescue's response
DWER	Fortescue: Submission of s38 referral for the Project, including *Environmental Management Plan* (plan name; doc id; rev number) as part of EPGH submission.	

[This page has been left blank intentionally]

6 ENVIRONMENTAL MANAGEMENT ROLES AND RESPONSIBILITIES

Fortescue implements and maintains an Environmental Management System (EMS) that aligns with the principles of ISO14001 International Standard for Environmental Management Systems. Fortescue also maintains an Environment Policy that is publicly available on the Fortescue website[2]. The Policy is endorsed by the Chief Executive Officer and the Board, stating that compliance with environmental laws and obligations is the minimum standard to which Fortescue will operate. It is the responsibility of all Fortescue employees and contractors to comply with the Environment Policy.

The Fortescue environmental management framework is managed by environmental personnel, within corporate, site operations and projects. Position descriptions for relevant environmental personnel outlines the requirements to manage and implement Fortescue's EMS sitewide. Fortescue identifies the environmental aspects of its projects and operations through a systematic risk assessment process. Environmental risks are reviewed and updated annually with Environmental Improvement Plans (EIPs) established for high risk environmental aspects.

Operational controls (management plans, procedures, guidelines and work instructions) will be identified and developed for each environmental risk. Environmental management programs established at Operational and Project sites detail the implementation of operational controls and monitoring of its effectiveness. Effectiveness of critical environmental controls implemented for high risk environmental aspects are audited annually to identify improvement opportunities that may reduce the consequence or likelihood of occurrence of environmental risks or gaps.

All Fortescue employees, including supervisors, receive training during inductions outlining their responsibilities in relation to complying with the Environment Policy. Environmental personnel at Operational Sites and Projects deliver targeted training on specific regulatory requirements, site specific approval conditions and use of Fortescue management plans and procedures to ensure that personnel understand their environmental responsibilities when undertaking their day to day work.

Fortescue maintains a database that is accessible to all Fortescue personnel to capture, maintain and report details of non-compliances and corrective actions. Performance against compliance targets are monitored and internally reported to management on a monthly basis, ensuring that non-compliance triggers and adverse environmental trends are identified and appropriate corrective and remedial actions can be implemented. Monthly analysis and reporting to Senior Managers is undertaken for environmental incidents and actions

[2] https://cdn.fortescue.com/docs/default-source/corporate-governance/environment-policy.pdf

completed. Regular biennial reporting of environmental performance to regulators is undertaken in accordance with the Statutory Reporting Schedule.

Environmental personnel at Operational and Project sites undertake monthly auditing against high risk environmental obligations (those obligations where non-compliance could potentially lead to environmental harm). Results of audits are internally reported to Senior Managers, with corrective actions arising from non-compliance captured, reviewed and reported.

Records relating to environmental management (including compliance, monitoring and reporting) are maintained within Fortescue in accordance with Fortescue's Record Keeping Policy.

Continuous improvement of Fortescue EMS and environmental performance is driven through the environmental governance processes within the business, including monthly reporting to Senior Managers, quarterly reporting to the Board and quarterly environmental management review meetings with Site and Head Office management. Improvement actions identified on Fortescue EMS effectiveness and environmental performance are identified through the Senior Environmental Management team.

6.1 Proposal Specific Roles and Responsibilities

To be updated as the Proposal progresses through approvals process

7 ENVIRONMENTAL TRAINING

Fortescue will ensure that all individuals employed in the construction of the Proposal have the appropriate training and experience required to successfully implement this Plan.

All personnel will receive environmental awareness training, applicable to their roles and responsibilities. Environmental awareness training may include the following formats:

- Toolbox talks - delivered as part of pre-start briefings to the workforce.
- Site inductions.
- Incident response training.
- Task briefings.

[This page has been left blank intentionally]

8 COMMUNICATION

8.1 Complaints Procedure

All complaints will be recorded within a register that will be developed and maintained by Fortescue. Community grievances can be raised with Fortescue via email, by sending a letter to Fortescue's Head Office or Community Offices or via the phone numbers listed below:

- 1800 867 086 (AUS).
- +61 3 7047 7881 (WhatsApp).

Complaints will be recorded in Fortescue's Stakeholder Relationship Management system (SRM) and regular updates provided to the complainant. All grievances and complaints are assessed on their maximum potential consequence and classified in accordance with Fortescue's Risk Management Standard. Grievances are investigated and corrective actions identified as required. Once corrective actions have been completed, the complainants are consulted to confirm if a satisfactory resolution of the compliant has occurred.

8.2 Emergency Response

Fortescue will prepare both a construction and operations phase Emergency Response Plan. This Plan will detail how emergencies are responded to within the DE.

9 REFERENCES

Advisian. (2022). East Pilbara Generation Hub - Baseline Hydrology Study. Document Ref: EPGH-HYD-REP-001. 17 October 2022.

Beard, J. S. (1975). Map and Explanatory Notes to Sheet 5: The Vegetation of the Pilbara Area. Nedlands, Western Australia: University of Western Australia Press.

Beard, J. S. (1990). Plant Life of Western Australia. Kenthurst: Kangaroo Press.

Biologic. (2024). EPGH Wind Farm - Nyamal Traditional Ecological Knowledge Survey. Report to Barlbinbinya Aboriginal Corporation. 3 September 2024. Confidential Report.

Department of Climate Change, Energy, the Environment and Water (DCCEEW). (2024). Environmental Management Plan Guidelines. DCCEEW, Canberra.

DCCEEW. (2023). National Light Pollution Guidelines for Wildlife.

Department of Primary Industries and regional Development, 2022. Soil Landscape Mapping - Best Available (DPIRD-027). Available at: https://catalogue.data.wa.gov.au/dataset/soil-landscape-mapping-best-available. Accessed on: 05/07/2024.

DWER. (2015). Treatment and management of soil and water in acid sulfate soil landscapes.

DWER. (2017). Acid Sulfate Soil Risk Map 100K (DWER-048). Available at: https://catalogue.data.wa.gov.au/dataset/acid-sulfate-soil-risk-map-100k-dwer-048. Accessed on: 22/10/2024.

DWER. (2018a). RIWI Act, Rivers (DWER-036). Available at: https://catalogue.data.wa.gov.au/dataset/riwi-act-rivers. Accessed on: 05/07/2024.

DWER. (2018b). Public Drinking Water Source Areas (DWER-033). Available at: https://catalogue.data.wa.gov.au/dataset/public-drinking-water-source-areas. Accessed on: 05/07/2024.

DWER. (2020). Contaminated Sites Database (DWER-059). Available at: https://catalogue.data.wa.gov.au/dataset/contaminated-reported-sites-dwer-059. Accessed on: 05/07/2024.

Ecoscape. (2024). Detailed Terrestrial Vertebrate Fauna Survey: East Pilbara Generation Hub. Prepared for Fortescue Ltd.

Environmental Protection Authority (EPA). (2024). Instructions: How to prepare Environmental Protection Act 1986 Part IV environmental management plans, EPA, Western Australia.

Focused Vision Consulting (FVC). (2024). East Pilbara Generation Hub, Detailed Flora and Vegetation Survey. Prepared by Fortescue.

Fortescue. (2017). Rehabilitation and Revegetation Monitoring Procedure (Reference: 45-GU-EN-0009).

Fortescue. (2019). Blasting Near Heritage Place Procedure (Reference: 100-PR-HE-0003).

Fortescue. (2021). Chemical and Hydrocarbon Storage Procedure (Reference: 100-PR-EN-1064).

Fortescue. (2022). Environmental spill response (Reference: IO-PR-EN-0003).

Fortescue. (2023). Land Use Certification: Acquisitions & Tenements (Business Process Owner) (Reference: 100-PR-TA-001).

Fortescue. (2013). Document Control, Information Management (Reference:100-ST-DC-001).

Fortescue. (2019). Geographic Information Systems and Raw Data Guidelines (Reference: 100-GU-EN-0009).

Fortescue. (2024a). EPGH Environmental Review Document.

Fortescue. (2024b). EPGH – Post development hydrology study – Pilbara decarbonisation wind generation project.

Fortescue. (2024c). Ground Disturbance and Topsoil Management Procedure (Reference: IO-PR-EN-0010).

George, Alexander S.; Mckenzie, Norman L.; Doughty, Paul. Ed. (2011). A biodiversity survey of the Pilbara region of Western Australia, 2002-2007. Western Australian Museum.

HBI. (2024). Short-Range Endemic Terrestrial Invertebrate Survey.

Korner-Nievergel, F. K., O. Behr, R. Brinkmann, M. A. Etterson, M. P. Huso, D. Dalthorp, and P. Korner-Nievergelt. (2015). Mortality estimation from carcass searches using the R-package carcass — a tutorial. Wildlife Biology 21:30–43.

Spectrum Ecology. (2024). Bird and Bat Survey Field Surveys.

Talis Consultants (Talis). (2024). EPGH Environmental Construction Vibration Assessment.

Van Vreeswyk, A.M.E, Payne, A.L., Leighton, K.A. and Hennig, P. (2004). Technical Bulletin No. 92. An inventory and condition survey of the Pilbara region, Western Australia.

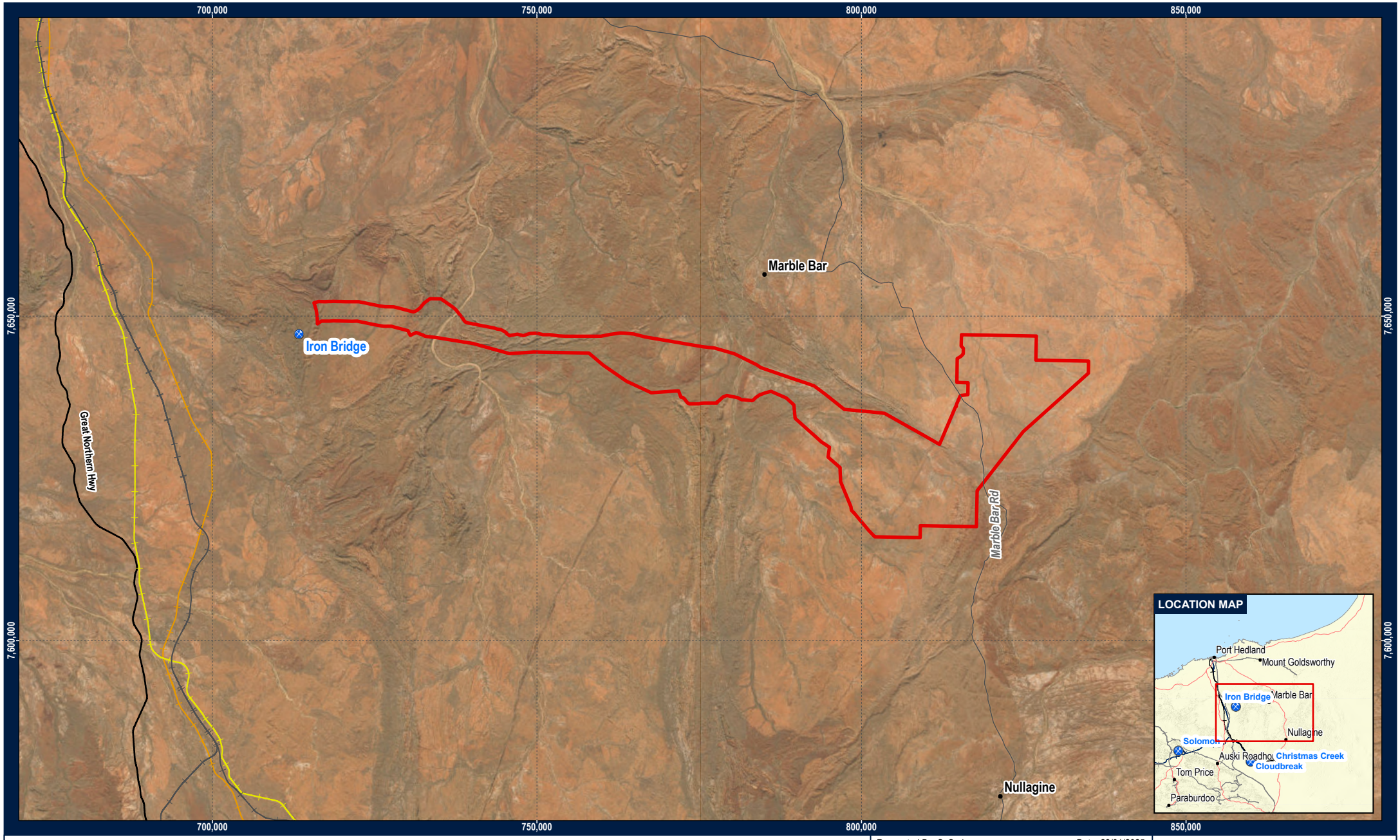
Worley Consulting (Worley). (2024). EPGH to the Iron Bridge Transmission Corridor (PTP Stage 6): Baseline Hydrology and Impact Assessment. Prepared for Fortescue.

[This page has been left blank intentionally]

DOCUMENT CONTROL

Environmental Management Plan		
Status	IFU - Issued for Use	30-Apr-25
Summary of Changes	N/A	
Author	Hannah Raphael – Jacobs Group (Australia) Pty Ltd Dominic Flynn - Jacobs Group (Australia) Pty Ltd	Signature
Checked or Squad Review# (if applicable)	Sofie Springer, Jacob Azzarello, Jane Humphrey	sofie.springer Digitally signed by sofie.springer DN: cn=sofie.springer, email=sofie.springer@fortescue.com Date: 2025.04.30 07:18:45 +08'00' Signature
Approved	Marlene Lootz	marlene.lootz Digitally signed by marlene.lootz DN: cn=marlene.lootz, email=marlene.lootz@fortescue.com Date: 2025.04.30 09:54:20 +08'00' Signature
Next Review Date (if applicable)	Enter a date	

FIGURE 1 THE PROPOSAL



Legend

- Towns
- FMG Mines
- FMG Rail Alignments
- BHPB Rail
- Roy Hill Rail
- Highway
- Road
- Development Envelope

Data Sources:
Aerial, ESRI
Towns, GA
All other data, Fortescue, 2024

N

0 5 10 15 20 25
Kilometres

Requested By: S. Springer
Drawn By: S. Bowyer
Revised By: scostello
Approved By:
Scale: 1:750,000
Coordinate System: GDA2020 MGA Zone 50
Project Name: 4519OP002_MP_EN_0066
Document Name: 4519OP002_MP_EN_0066.001

Date: 23/01/2025
Size: A4L
Revision: 2
Confidentiality: 0

Figure 1-1
Proposal Location

Fortescue

[This page has been left blank intentionally]

APPENDIX A RELEVANT LEGISLATION

Legislation	Application
Biodiversity Conservation Act 2016 (WA)	Conservation and protection of biodiversity and biodiversity components.
Environment Protection and Biodiversity Conservation Act 1999 (Cth)	Protection on environmental matters of national significance.
Environmental Protection Act 1986 (WA)	Prevention, control and abatement or pollution and conservation protection and enhancement of environment.
Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA)	Regulates the clearing of native vegetation.
Mining Act 1978 (WA)	Identify, evaluate and manage the environmental impacts of mining proposals.
Rights in Water and Irrigation Act 1914 (WA)	Relates to rights in water resources, to make provisions for the regulation, management, use and protection of water resources, to provide for irrigation schemes and for related purposes.

APPENDIX B ACRONYMS AND DEFINITIONS

Acronym / term	Definition
ASS	Acid Sulfate Soils
BC Act	*Biodiversity Conservation Act 2016*
DBCA	Department of Biodiversity Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DE	Development Envelope
DP	Declared Plant
DPIRD	Department of Primary Industries and Reginal Development
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water Environment and Regulation
EPA	Environmental Protection Authority
EPBC Act	*Environmental Protection Biodiversity and Conservation Act 1999*
EPGH	East Pilbara Generation Hub
ERD	Environmental Review Document
Fortescue	Fortescue Ltd
FVC	Focused Vision Consulting
GW	gigawatts
GWOS	Groundwater Operating Strategy
ha	hectares
IDF	Indicative Disturbance Footprint
kV	kilovolt
m	metres
Nyamal	Nyamal People
PEG	Pilbara Energy (Generation) Pty Ltd
PLNB	Pilbara Leaf-nosed Bat
Q	quarter
WA	Western Australia
VA	Vegetation Associations
RIWI Act	*Rights in Water and Irrigation Act 1914*
SRE	Short Range Endemic
WoNS	Weeds of National Significance