AA Railway Corridor – Species Management Plan

CLIENTS | PEOPLE | PERFORMANCE

Hancock Prospecting Pty Ltd

Report for Alpha Coal Project (Rail)

Species Management Program

March 2011

INFRASTRUCTURE | MINING & INDUSTRY | DEFENCE | PROPERTY & BUILDINGS | ENVIRONMENT

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1. Introduction

1.1 Species Management Programme objectives

The purpose of this Species Management Program (SMP) is to minimise impact on wildlife breeding places that could result from the construction of the Alpha Coal Project (Rail). Under Section 332 of the *Nature Conservation (Wildlife Management) Regulation 2006* (Wildlife Management Regulation), there is a requirement to prepare a SMP for any activity that has the potential to tamper with the breeding place of wildlife protected under the *Nature Conservation (NC) Act, 1992*.

This SMP relates to wildlife species listed as 'least concern' and 'special least concern' wildlife within the project footprint. Impacts to threatened species that occur within the project footprint will be managed by Threatened Species Management Plans for each species, or similar group of species.

This SMP has been developed specifically for implementation along the rail alignment/project footprint.

1.1.1 Applicant details

The contact details for the person within Hancock Prospecting Pty Ltd responsible for the implementation of this management plan are provided in Table 1.

Table 1 Applicant details

Applicant Name	Alpha Coal Project Hancock Prospecting PTY Ltd
ABN	69 008 676 417
Address	Level 8 307 Queen Street Brisbane QLD 4000
Contact Details	Environmental Representative (07) 3231 9600 mail@hancockcoal.com.au

1.1.2 Organisational summary

The proponent for the Alpha Coal Project (Rail) is Hancock Prospecting Pty Ltd (HPPL). HPPL is a privately owned diversified Australian prospecting and mining company. HPPL has discovered mineral deposits throughout Australia, some of which have underpinned the iron ore export industry in Western Australia. The company was founded by Lang Hancock over 50 years ago. The company has a long history in mineral exploration and development industries throughout Australia, and has held coal tenements in Queensland for more than 30 years.

1.2 Activity

HPPL 2010a, provides a summary of the activities proposed by the Project and the rationale behind the route selection. The 495 km long standard gauge railway line (refer to Figure 1) is located between the Alpha Coal Mine, 50 km north of the Alpha township and the Abbot Point coal export terminal, 22 km northwest of Bowen. The alignment of the Project has been selected on the basis of several factors,

primarily topographic, environmental, economic and geotechnical grounds. The rail alignment proceeds in a generally north-easterly direction from the Alpha mine, crossing the Belyando River and several of its tributaries in the first 100 km. The railway crosses generally relatively flat lowlands before commencing a gentle climb from near Eaglefield adjacent to the Suttor River, to a point near the existing Newlands mine. This is the highest point on the railway at approximately 300 m above sea level. In the vicinity of the Newlands mine, the railway runs parallel to the QR National (QRN) Northern Missing Link railway through a pass in the Leichhardt Range and parallel to the Newlands Railway to a point near the Bowen River for approximately 70 km. The Railway then travels in a north westerly direction down the Bowen River valley through mostly grazing land toward Mount Herbert. West of Mount Herbert, through a pass in the Clarke Range, the railway travels north-easterly crossing the Bogie River and entering Abbot Point on its western boundary. Within the Abbot Point area it runs parallel to the existing Newlands Rail line for approximately 6 to 8 km.

The railway passes approximately 70 km to the north west of Clermont, 55 km to the north west of Moranbah, 20 km to the west of Collinsville, and enters the Port of Abbot Point 22 km north of Bowen (HPPL 2010a).'

It is understood for this assessment that the project comprises of:

- An easement of approximately 495 km long and 60 m wide, the easement will contain rail track, drainage, access roads, bridges and culverts and other infrastructure to facilitate the construction and subsequent operation of the railway line;
- A series of laydown areas and construction nodes;
- Local construction access tracks (that will be used during construction only);
- Local maintenance access tracks (that will be used and maintained through the operational phase); and
- A number of other features including, borrow pits, stockpiles, administrations facilities, car parks amongst others (HPPL 2010a.).

1.2.1 Applicable species

This Species Management Program (SMP) details fauna management measures applicable to Least Concern and Special Least Concern wildlife that may be affected by the proposed Project. This SMP addresses the likely impacts resulting from the construction and operation of the Project and the management actions necessary to reduce these impacts on the breeding places of Least Concern and Special Least Concern species under the *Nature Conservation Act 1992* (NC Act).

The SMP identifies:

- Potential impacts on native fauna breeding places;
- Management actions to address impacts;
- Roles and responsibilities; and
- Monitoring and reporting requirements.

1.3 Legislative framework

Commonwealth and State acts and their subordinate legislation regulate the management of habitats, flora, fauna and biodiversity within the rail corridor alignment and its surrounds. The acts that are

considered in this SMP are those that are directly applicable to the management of wildlife in the Project area. The relevant acts are considered below.

Commonwealth Legislation

- *Environment Protection and Biodiversity Conservation Act 1999*

  The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework to protect and manage Matters of National Environmental Significance (MNES). The EPBC Act affects any group or individual (including companies) whose actions may have a significant impact on a matter of national environmental significance. Any action that is likely to have a significant impact on MNES, such as, listed threatened species or ecological communities under the EPBC Act must be referred to the Minister and be subject to an environmental assessment and approval process.

  The EPBC Act is relevant to this SMP because species listed as EPBC Migratory species are also listed under the NC Act as 'Special Least Concern' species. Under this clause the EPBC Act is applicable to three species recorded within the Project area.

Queensland Legislation

- ***Nature Conservation Act 1992* and relevant regulations**

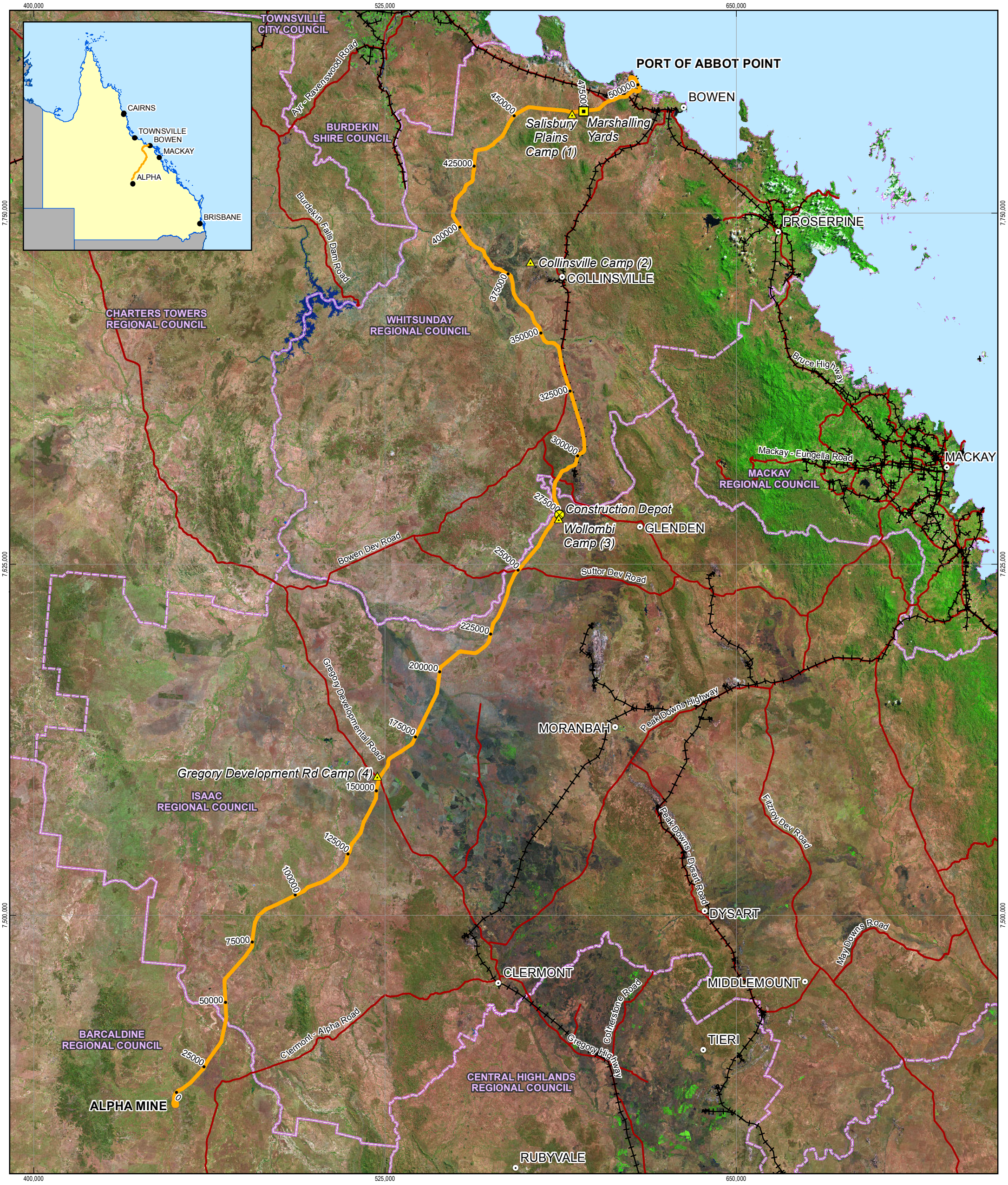
  The object of the *Nature Conservation Act 1992* (NC Act) is to conserve nature using an integrated and comprehensive conservation strategy for all of Queensland. Under the NC Act, all native wildlife in Queensland are protected and are listed under categories recognising level of threat by the *Nature Conservation (Wildlife) Regulation 1996*.

  Nature Conservation (Wildlife) Regulation 1996

  The *Nature Conservation (Wildlife) Regulation 1996* (NCR) lists plant and animal species considered presumed Extinct, Endangered, Vulnerable, Near Threatened, Least Concern, International, and Prohibited. It discusses their significance and states the declared management intent and the principles to be observed in any taking/use. The *Nature Conservation (Wildlife Management) Regulation 2006* sets out the requirements for dealing with Least Concern and Special Least Concern wildlife. It states that when dealing with Special Least Concern animals, in addition to the specified 'management intent' to which activities or people dealing with Least Concern wildlife must have regard to, a person must have regard to the 'special cultural significance' of the Special Least Concern animal as well as 'the need to conserve existing populations of the animal'.

  Nature Conservation (Wildlife Management) Regulation 2006

  Under Section 332, of the *Nature Conservation (Wildlife Management) Regulation 2006,* any activity that will 'tamper' (i.e. remove, damage, impair, degrade etc) with the confirmed breeding place of a native animal (that is Endangered, Vulnerable, Near Threatened and Least Concern wildlife) requires authorisation under a Damage Mitigation Permit (DMP).



LEGEND

- Town
- Camp
- Marshalling Yards
- Depot
- Proposed Alignment
- State Road
- Existing Railway
- Local Government Area

Source: See Copyright Details below and for full disclosure please refer to the SEIS ***Volume 2, Appendix B***

1:1,250,000 (at A3)

0 5 10 20 30 40 50

Kilometres

Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 55

N W E S

HANCOCK PROSPECTING PTY LTD

Alpha Coal Project
Supplementary Environmental Impact Statement

PROJECT AREA

Job Number	41-23742
Revision	C
Date	02-03-2011

Figure: 1

G:\41\23742\GIS\Maps\MXD\400_Terrestrial_Ecology\41-23742_434_rev_c.mxd

2. Terms

2.1 Terms of approval

This species management plan is to remain valid for the duration of all phases of the project.

2.2 Approved parties

The following parties are to be approved to operate under this program:

- Alpha Coal Project
- Hancock Prospecting Pty Ltd
- Alpha Coal Project construction contractors and subcontractors
- Alpha Coal Project environmental representative.

3. Previous Assessments

Desktop and field assessments were previously undertaken within the Project area during 2009 and 2010, as part of the assessments required to complete the EIS for the proposed rail line (HPPL 2010b).

Terrestrial ecology field surveys included both dry (November/December 2009) and wet (April 2010) season surveys to document seasonal changes in terrestrial flora and fauna assemblages, habitat condition and utilisation. The survey methodology and site selection was developed in consultation with the Department of Environment and Resource Management (DERM) and followed standard recognised techniques for ecological surveys. The methodology and findings of these assessments are summarised in Section 3.1 (taken from (HPPL 2010b).

3.1 Survey methodologies

A desktop assessment was conducted to identify records or potential occurrences of species of conservation significance and Threatened Ecological Communities within the Project area and surrounding region (under the EPBC or NC Acts). Fieldwork was then undertaken to provide further detail and ground truthing of the desktop assessment.

The desktop assessment included reviews of state and commonwealth databases and mapping sets for the Project area to identify records or potential occurrences of species of conservation significance, remnant vegetation, high-value regrowth vegetation, Threatened Ecological Communities and any other biodiversity values. The databases searched included:

- The DEWHA Protected Matters Search Tool to identify species listed under the EPBC Act that are predicted to occur in the Project area;
- The DERM Wildlife Online database to identify flora and fauna species that have been historically recorded in or surrounding the Project area, including species listed under the *Nature Conservation Act 1992* (the NCA) and the EPBC Act;
- Queensland Herbarium's (DERM) HERBRECS specimen database to identify any flora species previously collected from within the Project area;
- The Queensland DERM RE (Version 6.0, 2009) and Essential Habitat (Version 3.0, 2009) mapping to determine the distribution of protected remnant vegetation as well as areas recognised as essential habitat for NCA listed fauna and flora within the Project area;
- The DERM on-line regrowth mapping facility was queried to determine if any areas on or within the Project area contained regrowth vegetation protected under the *Vegetation Management and Other Legislation Amendment Act 2009;*
- The DERM Biodiversity Planning and Assessment (BPA) mapping to identify habitats and bioregional wildlife corridors that are significant at state or regional level;
- The DERM Referable Areas mapping to determine if the Project area was located in or within 100 m of a referrable wetland, a conservation estate, or heritage registered place;
- DEWHA's Directory of Important Wetlands database in Australia; and
- Birds Australia Atlas database which lists all bird species previously recorded from the Project area during official Birds Australia censuses.

A full suite of field surveys were conducted to identify habitats, communities and species in the Project area and to verify the likelihood of occurrence of EPBC Act and NCA listed flora and fauna species.

Verification was based on direct observations of flora, REs, fauna, fauna traces or suitable habitat. Surveys were conducted in the wet and dry seasons to document seasonal changes in terrestrial flora and fauna assemblages, habitat condition and utilisation. Survey timing and design considered seasonal variation in environmental conditions, the ecology of threatened species and accessibility.

The current certified RE mapping (Version 6.0) identifies 68 different REs within the Project area including 10 classified as Endangered, 19 Of Concern and 39 Least Concern under the *Vegetation Management Act 1999* (VMA). Ground-truthing confirmed the presence of 68 RE types within the Project area. The majority of these REs are located in the Brigalow Belt bioregion, with six located in the Desert Uplands all of which are Least Concern. In total 446.64 ha of these three types of RE occur within the Project footprint and are proposed to be cleared during construction. This area includes the entire rail alignment including those areas which are within the proposed mine area and the port facilities at Abbott Point coal export terminal. Clearing of this area of RE will require management of the disturbance to animal breeding places located within the RE area. Excluded from the area of RE clearing are; accommodation camps and other associated infrastructure (e.g. marshalling yards, fuel depots, passing loops and bridge crossings) for the construction of the Project, any further areas of RE that is required to be cleared to facilitate the construction of the Project will be provided when available.

3.2 Fauna habitat within the Project Area

Twelve main terrestrial habitat types were classified within the Project area. These are listed and described in Table 2, the value for wildlife of each of these habitat types is also summarised.

Table 2 Terrestrial fauna habitat types within the Project area and likely ecological value for terrestrial fauna (source HPPL 2010b).

Habitat Type	Characteristics	Value for Wildlife
Grasslands	Trees and shrubs < 5% cover Native grassland and areas established and maintained through clearing Minor to severe grazing and trampling impacts Erosion and declared weeds evident at some locations	Low to moderate resource diversity Habitat for snakes, reptiles, rodents, macropods Foraging value for raptors Low to moderate species diversity, value depends on grazing pressure 1 listed species possible – squatter pigeon. **Ecological value**: Low to Medium
Sparse regrowth	Shrubs and low trees comprise a sparse canopy layer Grazing impacts moderate to severe Exotic grasses often dominate ground layer, with very low species diversity	Limited resource diversity Few microhabitats Low species diversity Some habitat value for birds, lizards, snakes, macropods and small ground mammals Low species diversity 1 listed species possible – squatter pigeon **Ecological value:** Low

Habitat Type	Characteristics	Value for Wildlife
Mature woodland with variable shrub and understorey	Intact canopy of mature eucalypts, often with dieback evident Mid-dense to sparse shrub layer Mid-dense to sparse understorey Fallen logs, woody debris	Moderate-high resource diversity Moderate-high structural complexity Habitat for shrub and understorey nesting birds, reptiles and ground mammals Moderate species diversity 8 listed species possible - squatter pigeon, yakka skink, ornamental snake, common death adder, brigalow scaly-foot, Dunmall's snake, little pied bat, northern quoll. **Ecological value:** Low to High
Semi-evergreen vine thicket	Dense, sometimes low canopy with moderate to high species diversity Shrub layer sparse to mid-dense Open ground layer	Moderate resource diversity Moderate structural complexity Habitat for canopy-nesting birds, macropods, skinks and burrowing reptiles Low-moderate species diversity 1 listed species possible – squatter pigeon **Ecological value:** Medium
Mixed low woodland	Mid-dense to sparse tree layer Sparse shrub layer Sparse understorey	Low resource diversity Low structural complexity Habitat for cleared land birds, and reptiles Low species diversity 1 listed species possible – squatter pigeon **Ecological value:** Low
Melaleuca-dominated shrublands	Mid-dense to absent low canopy Sparse to very sparse shrub layer Mid-dense to very sparse understorey Sandy substrate	Moderate resource diversity Low structural complexity Habitat for grassland birds, raptors, lorikeets, flying foxes, possums and gliders Moderate species diversity 2 possible listed species – squatter pigeon and black-throated finch **Ecological value**: Medium
Beach and coastal wetlands	Tidal flats without canopy vegetation and mangrove areas with dense canopy vegetation Shrub layer mid-dense to absent Dense to absent Tidally inundated Refer to aquatic report for further detail on Caley Valley	Moderate to high resource diversity Low to high structural complexity Habitat for shrub, canopy and wading birds, specialist reptiles and mammals Moderate species diversity 2 possible listed species – water mouse and saltwater crocodile **Ecological value**: Medium
Sparse woodland/ grassland on cracking clay soils	Very sparse tree layer (usually < 5%) Sparse shrub layer Dense ground layer Frequently on level to undulating landforms with cracking clay soils Some sites may be seasonally inundated	Moderate resource diversity Low - moderate structural complexity Habitat for understorey nesting birds, snakes, lizards, small ground mammals, macropods and burrowing frogs Moderate species diversity 2 listed species possible – squatter pigeon, Dunmall's snake **Ecological value:** Medium

Habitat Type	Characteristics	Value for Wildlife
Open woodland with grassy understorey	Very sparse canopy of eucalypts or ironbarks Sparse to very sparse shrub layer Ground layer dominated by exotic and native grasses Various substrates Hollows, fallen logs and woody debris commonly present	Moderate resource diversity Moderate structural complexity Habitat for canopy and ground-nesting birds, snakes, lizards and treefrogs and hollow-associated fauna (possums, gliders, parrots, owls, microbats) 7 listed species possible – squatter pigeon, little pied bat, yakka skink and to a lesser extent ornamental snake, common death adder, Dunmall's snake and brigalow scaly-foot **Ecological value:** High
Acacia dominated shrubland	Canopy dominated by one or two wattle species and generally less than 15 m tall Sparse shrub layer Sparse to very sparse ground layer Fallen logs and woody debris common Cracking clay soils Gilgai commonly present Some areas, including gilgai, seasonally inundated Gilgai provide wet season wetland vegetation	Moderate to high resource diversity Moderate structural complexity Habitat for canopy nesting birds, listed snakes and lizards Wet season habitat for wetland birds, frogs, snakes Moderate species diversity 7 listed species possible – squatter pigeon, yakka skink, ornamental snake, brigalow scaly-foot, Dunmall's snake and in wet season cotton pygmy goose and black-necked stork **Ecological value:** High
Eucalypt woodland on rocky rises	Sparse canopy dominated by eucalypts (primarily ironbarks) Very sparse to sparse shrub layer Grassy understorey of native and exotic species Fallen logs and debris Hollows present Rocky outcrops, generally of granite or basalt	High resource diversity Moderate structural complexity Habitat for canopy and understorey nesting birds, hollow-dependent fauna, snakes and lizards, small ground mammals, macropods Moderate species diversity 6 listed species possible – squatter pigeon, yakka skink, brigalow scaly-foot, common death adder, little pied bat, northern quoll **Ecological value:** High
Woodland and open forest fringing ephemeral and permanent watercourses	Mid-dense to sparse canopy dominated primarily by eucalypts Shrub layer with medium to high species diversity Ground layer dense to very sparse Declared weeds often present Fallen logs and debris common Hollows present	High resource diversity High structural complexity Habitat for canopy, shrub and understorey nesting birds, hollow-dependent fauna, macropods and small ground fauna, snakes, lizards and frogs Important dry season refuge High species diversity 5 listed species possible – squatter pigeon, black-throated finch, northern quoll, little pied bat, common death adder **Ecological value:** High (particularly those less affected by grazing activity)

3.3 Species recorded within the Project area

The desktop assessment identified a total of 516 native species of animal which have historically occurred in the Project area. During the subsequent field assessment 221 species of animal were

recorded in the area, eight of which were introduced to the region. Of the species recorded from the desktop assessment 21 are listed under the NC Act (full species lists and descriptions of the species recorded during the field surveys can be found in HPPL 2010b.

46 species of migratory birds had the potential to occur in the Project area (Wildlife Online results appendix F, HPPL 2010b). Three species of migratory birds were recorded during wet and dry season field surveys, Table 3.

Migratory species are those listed under any international conventions or agreements, to which Australia is party to, and are protected under the EPBC Act. Australia is party to the following migratory species conventions; Japan-Australia Migratory Bird Agreement (JAMBA), the China-Australia Migratory Bird Agreement (CAMBA), Republic of Korea - Australia Migratory Bird Agreement (ROKAMBA) and theConvention on the Conservation of Migratory Species of Wild Animals - (Bonn Convention), (Department of Sustainability, Environment, Water, Population and Communities 2011a). All listed migratory species are considered MNES under the EPBC Act.

Table 3 Migratory EPBC listed species occurring in the Project area

Species	EPBC status
Rainbow bee-eater (*Merops ornatus*)	Marine; Migratory(JAMBA)
Satin flycatcher (*Myiagra cyanoleuca*)	Marine; Migratory(Bonn)
White-bellied Sea-Eagle (*Haliaeetus leucogaster*)	Marine; Migratory(CAMBA)

An action will require approval if the action has, will have, or is likely to have, a significant impact on a listed migratory species. The migratory species listed in Table 3 are likely to use the Project area as overfly and potential foraging habitat. However the Caley Valley wetland, located at the northern most part of the rail alignment adjacent to the Port of Abbot Point, supports a significant community of marine and migratory wetland birds. The Project however is unlikely to substantially modify, destroy or isolate important habitat. Apart from Caley Valley few permanent water sources will be affected by the Project (HPPL 2010b).

In addition under The *Nature Conservation (Wildlife Management) Regulation 2006* identifies the echidna (*Tachyglossus Aculeatus*) as a Special Least Concern species and was recorded in both the dry and wet season surveys in a number of sites throughout the Project area.

4. Impacts and Management Actions

4.1 Potential impacts

With a large scale project such as the Alpha Coal Project (Rail) the pre-construction, construction and operational phases of the Project's development, could impact upon the potential breeding places of a number of fauna species. This SMP is primarily concerned with the effect of the Project on wildlife identified as being Least Concern or Special Least Concern wildlife under the NC Act. The potential impacts associated with the pre-construction, construction and operational phases of the Project for animal breeding places are specifically addressed and mitigation measures defined.

Potential impacts on the 21 conservation significant species under the NC Act which have been identified as potentially occurring in the Project area will be managed by threatened species management plans.

4.1.1 Pre-construction phase

The pre-construction phase of the project includes clearing of vegetation from the Project footprint. The design phase of the Project has attempted to locate the footprint of the rail line in areas of land that have been previously cleared or degraded (habitat value). The clearance of vegetation and direct habitat loss (including preparation of non-vegetated areas that may be required facilitate construction over waterways, through rocky areas for example and still provide fauna habitat) represents may result in localised reductions in vegetation cover, reduced habitat diversity and a decline in the abundance of habitats and resources for species of flora and fauna. Direct habitat loss will impact on the 'breeding places' of fauna, habitat clearance will affect wildlife that resides in vegetation, shelters in hollows, under rocks, logs and bark (i.e. arboreal mammals, nocturnal, nocturnal birds, reptiles and frogs), ground dwelling animals are also at risk as many species can hide or freeze at signs of approaching danger (i.e. bandicoots, quails and pigeons). The phase of habitat clearance can result in direct mortality or injury of a variety of species that reside in the habitats being affected.

In addition some activities related to vegetation clearing such as the movement of vehicles and heavy machinery to and from the Project area also have the potential to impact wildlife during this phase of the project, through direct mortality and disturbance.

4.1.2 Construction phase

The construction phase of the project includes the construction of the rail line and associated infrastructure. This will include the presence of heavy machinery and increased vehicular movements, with potential for increased collision strike with wildlife (direct mortality or injury). The active construction sites present a risk to fauna species, trenches, pits, and other construction operation may present hazards to wildlife, trapping them or endangering them (macropods, echidnas, snakes and lizards are particularly at risk).

A temporary workforce will be employed during this phase and with be accommodated at various camps along the alignment until the end of construction, work force travel to and from construction sites. Although the presence of the construction vehicle fleet increases a risk of direct mortality of fauna through vehicle strike and disturbance, the likelihood of instances of vehicle strike is considered to be low.

4.1.3 Operational phase

The operational phase of the project encompasses the day-to-day activities involved with running of the rail line once it is operational. Impacts to wildlife that may occur during operation include direct mortality of native fauna through train strike and vehicle collisions (maintenance and staff vehicles). Species at most risk include; birds, bats, small marsupials and macropods. The likelihood of instances of vehicle strike is considered to be low, vehicle movements are not expected to be highly frequent (except in unusual circumstances e.g. major washout, derailment etc, which is considered a very unlikely scenario, and would be localised). Appropriate design and placement of drainage culverts along the rail alignment may also allow permeability of the rail line for some species of fauna, further reducing the likelihood of vehicle strike.

During operation noise and vibration and potential for emissions (both fuel emissions and dust from coal transportation) from the train line may have continual impact on fauna breeding places, through disturbance although limited. The levels of dust and fuel emissions from trains and vehicles are not considered to be significant (Appendix H, HPPL 2010b).

Detailed discussion and management actions for each impact are outlined in section 4.3

4.2 Responsibilities

All project and construction staff are required to abide by the *Environmental Protection Act 1994* (EP Act) and comply with all procedures outlined in this SMP. Project staff must not carry out any activity that is likely to cause, or causes, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm.

4.2.1 Hancock Prospecting Pty Ltd – Owner

HPPL as the Alpha Coal Project (Rail) project proponent and owner or any other future owner of the rail infrastructure, has overall responsibility for the environmental performance on site and consistency with any development permits and requirements.

4.2.2 Construction Manager

The construction manager has overall responsibility for the delivery of the pre-construction and construction phases of the Project. Specific responsibilities include:

- Providing training to staff in their obligations under the SMP;
- Implementing environmental protection measures as described in the approved SMP;
- Providing copies of the SMP to sub-contractors with responsibilities under the plan;
- Warrant the full and complete implementation of the SMP by sub-contractors;
- Auditing sub-contractors implementation of the SMP and adherence to the requirements of the SMP;
- Managing corrective actions arising from monitoring activities and external audits; and
- Reviewing the SMP implementation and effectiveness.

4.2.3 Environmental Representative

The environmental representative is responsible for:

- Overseeing compliance with the relevant Federal and State environmental legislation approval requirements and/or exemption requirements under the EPBC Act, VM Act and NC Act during the project in collaboration with the Construction Manager;
- Monitoring and reporting on the performance of environmental protection measures in accordance with the requirements of the SMP;
- Undertaking monitoring and reporting requirements as outlined in this SMP; and
- Confirming relevant environmental commitments have been satisfied.

4.2.4 Wildlife Spotter/Catcher

A Wildlife Spotter/Catcher or environmental representative must be present on site during all the vegetation clearing activities. With a project of this size it is likely that several Wildlife Spotter/Catchers or environmental representatives will be required will inspect vegetation and potential breeding places prior to and after clearing. They will survey for fauna, safely capture, assess the health of, and securely transport and relocate any fauna species encountered during vegetation clearing and construction activities where necessary. If required they will seek external specialist veterinary assistance (see Table 7).

4.2.5 Construction personnel and subcontractors

All construction personnel must be made aware of the requirement to exercise environmental due diligence and achieve compliance with this SMP, staff inductions and tool box talks should be used as a mechanism to provide staff with information relating to fauna that may be encountered during the Project and the obligations of the SMP.

4.3 Impacts and management

Tampering of potential breeding places and potential breeding structures

Recorded breeding places and potential breeding places in the Project area included hollow bearing trees and logs, stag trees, rocky habitat and grasslands. As identified in Table 2 some habitats located within the Project footprint have a higher ecological value and potential to support breeding populations of fauna, especially the mature woodland, eucalypt woodland and acacia dominated shrubland for example. These habitats support structures that may provide breeding habitat for fauna species such as birds, small mammals and bats as well as cryptic fauna species such as reptiles and invertebrate species, these habitats may also support listed species of fauna. Within these habitats breeding places and structures suitable for sheltering fauna may be cleared and tampered with during the pre-construction and construction phases of the Project.

Potential exists for breeding places to be tampered with during the operation of the Project, although the potential is considered small, there is some scope for structures such as nests in trees or hollow logs to be tampered with by maintenance personnel or visitors during the operational activities. The severity of this impact will be minimised by following the management actions outlined below.

Table 4 Tampering of potential breeding places and potential breeding structures

Management Action	Responsibility
A wildlife spotter/catcher or environmental representative to be present on site during all vegetation clearing activities associated with the pre-construction phase, due to size of the Project multiple staff may be required.	Construction Manager
Avoidance of tampering with potential breeding places will occur by limiting additional vegetation clearing and disturbance into areas beyond those required for the rail alignment construction footprint.	Project Engineer Construction Manager
Prior to any vegetation clearing activities the construction manager, wildlife spotter/catcher or environmental representative and the clearing machinery operator will inspect the clearing extent to familiarise themselves with the associated environmental issues and potential fauna breeding places. Allowing for systematic clearance to take place with provision for fauna to relocate into adjacent habitat as clearance takes place.	Construction Manager Environmental representative Wildlife Spotter/Catcher or environmental representative
Where unavoidable, hollow logs or other similar features will be moved from the vegetation clearing/construction footprint and operations and carefully relocated to suitable adjacent habitat so that minimal damage is sustained to potential breeding habitat features.	Construction Manager Environmental representative
The environmental representative will identify and clearly mark all hollow bearing trees and trees with visible nests in them. These trees are to be avoided during vegetation clearing where possible. If nests are active, then the tree or structure supporting the nest should not be disturbed until all young have fledged and become non-dependant upon the nest. Where the clearing of a tree containing a breeding structure cannot be avoided the structure will be relocated to similar surrounding trees.	Construction Manager Environmental Representative
Vegetation should be cleared incrementally, in a sequential manner to give fauna the opportunity to move to adjacent habitat outside of the Project footprint. Wildlife spotter/catchers should be on site during vegetation	Construction Manager Wildlife Spotter/Catcher

Management Action	Responsibility
clearing activities to limit fauna mortality and allow for safe relocation of fauna.	or environmental representative Construction personnel
A fauna incident register will be created to record all incidents involving fauna during all phases of the project. This register will include the details of the incident including, species, time, date, person on duty (if not responsible officer), incident type and nature and measures taken to prevent re-occurrence. The register is to be kept on site and made available to DERM when requested.	Construction Manager Environmental Representative Construction personnel

Temporary disturbance adjacent to breeding places

Breeding places and potential breeding places adjacent to rail alignment may be subjected to temporary disturbance from activities involved with the pre-construction, construction and operational phases of the project including, noise, vibration, vehicle movements and the presence of people. Breeding places which may be affected by temporary disturbance may include hollow bearing trees, trees containing nests and species habitat trees with no specific breeding structure.

Table 5 Temporary disturbance adjacent to breeding places

Management Action	Responsibility
All known breeding places to be identified to construction personnel in the field prior to pre-construction and the commencement of works.	Construction Manager Environmental Representative
All hollow bearing trees and trees containing visible nests (e.g. bird nests) will be identified and marked by the environmental representative and wildlife spotter/catcher.	Environmental Representative Wildlife Spotter/Catcher or environmental representative
A buffer zone (of at least 10m) will be maintained around identified breeding habitat in order to minimise disturbance, buffers should be marked and adequately signed to indicate 'environmental no-go' area.	Construction Manager Environmental Representative
Prior to vegetation clearing during pre-construction a register for the location of all known breeding places will be created. This register will include the details of the breeding place including, species, location, status (i.e. eggs present) date, person on duty (if not responsible officer) and any measures taken to preserve/protect or manage the breeding place.	Construction Manager Environmental Representative
Any parts of the Project area which are cleared during pre-construction but are no longer required for the construction or operational phases (e.g. access roads) will be rehabilitated to allow for the establishment of breeding and nesting sites. Rehabilitation will be achieved through the planting of local plant species similar to that present in the surrounding plant community.	Construction Manager
Noise and activity at work locations adjacent to breeding places (e.g. hollow bearing trees, hollow logs and trees with nests) during pre-construction and construction is to be kept to the minimum possible level required to undertake the activity. Where possible, construction work is to occur between	Construction Manager

Management Action	Responsibility
the hours of 6 am and 6 pm. Where long durations of heavy works need to be undertaken, regular breaks will be taken to limit noise stress on animals.	
To limit dust disturbance from pre-construction and construction activities dust abatement measures will be used on unpaved/vegetated surfaces.	Construction Manager

Injury to fauna

Pre-construction vegetation clearing and construction activities have the potential to cause injury to wildlife or mortality. Increased vehicular movements throughout the Project area during these phases could also increase the incidence of wildlife strike and road kill. Likewise, wildlife could become trapped in trenches or excavations built during construction. Injury and mortality to fauna is also possible during operation through train movements and vehicle strikes. The mitigation measures outlined below can reduce the chance of wildlife injury or death occurring at any point of the project.

Table 6 Injury to fauna

Management Action	Responsibility
If injury to any fauna species occurs during clearing, construction or the operation the methodology outlined in section 6.2 will be followed. Copies of the procedure are to be kept in construction site offices during pre-construction and construction.	Construction Manager Environmental Representative
Construction and operational personnel will be educated in relation to their role in fauna management and their obligations under this SMP, including (but not limited to): ◗ All native fauna species are protected. No native fauna, including snakes, will be intentionally killed during construction; ◗ Fauna are not to be handled by personnel; ◗ No feeding of fauna (intentional or unintentional); ◗ Adhering to site speed limits to reduce vehicle strike; ◗ All rubbish and food scraps are to be placed in secure bins and disposed of appropriately; and ◗ No pets, traps or firearms will be allowed in the Project area.	Construction Manager
To prevent fauna falling into excavations fauna proof fences will be erected around any excavations which are to stay open for a period of greater than 12 hours or overnight.	Construction Manager
All trenches and excavations which do not have a suitable gradient for fauna to escape will have at least one escape route provided e.g. ramps or benching built into excavations or have branches or logs placed reaching from the bottom of the excavation to the top.	Construction Manager
Excavations and trenches which are not sealed or filled and are left overnight will be checked for any fauna daily before the start of construction. Any fauna found will be removed by the wildlife spotter/catcher.	Construction Manager Wildlife Spotter/Catcher or environmental representative

5. Monitoring and reporting

Monitoring of the work undertaken by the wildlife spotter/catchers and environmental representatives throughout the construction and subsequent operation of the Alpha Coal Project (Rail) forms an important part of the SMP and provides feedback to the Project management and statutory bodies.

5.1 Post clearing and construction monitoring

Monitoring to evaluate the success of the management actions outlined above will occur after the initial clearing of required areas within the Project footprint and during construction of the alignment. Monitoring will involve the following actions:

- Assessment of cleared areas against the existing register of obvious potential breeding places, to monitor if any additional breeding places were tampered with;
- Assessment of any damage to breeding places which were avoided or relocated during construction; and
- Updating the register of obvious breeding places and fauna incidents according to the results of the monitoring described above. The updated registers will be made available to DERM on request.

Post clearing and construction monitoring will be performed by the on site environmental representative.

5.2 Reporting

The proposed reporting scheme for this SMP for the Project will comprise of a post clearing and construction breeding places report. This report will be compiled by the on-site environmental representative at the completion of construction of the project.

The report will be made up of data obtained from the monitoring events specified in Section 5.1. From the outcome of the monitoring events the environmental representative will evaluate whether the management actions to control the impacts proposed in Section 5 are being undertaken successfully. If they are not successful DERM will be notified.

6. Management

6.1 Qualified persons

During the construction of the rail alignment there may be a requirement for specialist and qualified persons to attend the site, in addition to the on site environmental representative and wildlife spotter/catcher. For example in the event of a fauna injury or to relocate breeding places specialist fauna management and care is required. The methodology for dealing with fauna injury or tampering/taking breeding places or protected wildlife is outlined in Section 6.2.

In the instance that a qualified wildlife career or veterinarian is required to treat or care for injured or displaced fauna those listed contacts in Table 7 will be used, although if other suitable qualified persons become known prior to construction those shall be added to this list. Any financial agreement to meet associated costs of treatment or care will be agreed upon between the chosen veterinarian/wildlife carer and the applicant when necessary.

Table 7 Qualified persons in the Project area

Qualified person	Business name	Contact details
Veterinarian	Clermont Veterinary Surgery	29 Laglan Rd, Clermont QLD 4721 (07) 4983 1172
Veterinarian	Moranbah Veterinary Clinic	Mills Ave, Moranbah QLD 4744 (07) 4941 7001
Veterinarian	Bowen Veterinary Clinic	156 Richmond Rd, Bowen QLD 4805 (07) 4786 4864
Veterinarian	Emerald Veterinary Clinic	57 Theresa St, Emerald QLD 4720 (07) 4982 1555
RSPCA	RSPCA - Mackay	1300 852 188
RSPCA	RSPCA - Rockhampton	58 William St, Rockhampton QLD 4702 (07) 4921 3339

6.2 Contingency planning

Contingency planning under this SMP will come into effect in the unlikely event of unexpected impacts occurring or if injury or death to fauna occurs. Contingency planning for injured fauna species has been developed in accordance with the GHD Animal Ethics Committee (GHD AEC) Standard Operating Procedure (SOP) for wildlife emergencies. The procedures to be followed include:

- Any fauna injured by project related activities will be inspected by an ecologist/environmental representative to determine the extent of the injury or sickness
- Where the injury is considered to be minor (e.g. minor abrasion) and the animal is otherwise alert and active, the animal may be released to reduce the stress on the animal

- All animals suffering injuries of a more intermediate nature will be transported to the nearest veterinary clinic or licensed wildlife rescue organisation. Details of veterinarian services and wildlife carers in the area are listed in section 6.1; these details are to be kept on site during construction and operation.

Any instances of an animal emergency will be followed up with an incident report to be included into the site fauna incident register with relevant parties to be notified when applicable or on request. If an animal emergency occurs to a state or federally listed conservation significant fauna species, all construction works within the affected area will cease and contact will be made with the relevant government departments (e.g. DERM, DSEWPC). Appropriate advice and actions will then be followed before works can recommence in the affected area.

7. Glossary and Abbreviations

Table 8 Definitions

Term	Definition
Animal breeding place	A bower, burrow, cave, hollow, nest or other thing that is commonly used by the animal to incubate or rear the animal's offspring.
Licensed wildlife carer	A person qualified to take and keep protected wildlife under a current rehabilitation permit in accordance with the *Nature Conservation (Administration) Regulation 2006.*
Spotter-catcher	A person qualified to take and keep protected wildlife under a current rehabilitation permit extended to authorise the take, keep or use of an animal whose habitat is about to be destroyed by human activity in accordance with the *Nature Conservation (Administration) Regulation 2006.*
Special Least Concern animal	Means the following— (a) the echidna (*Tachyglossus aculeatus*); (b) a Special Least Concern bird to which any of the following apply— (i) the agreement called 'Agreement Between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment' (JAMBA), and signed at Tokyo on 6 February 1974; (ii) the agreement called 'Agreement Between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment' (CAMBA), and signed at Canberra on 20 October 1986; (iii) the convention called 'Convention on the Conservation of Migratory Species of Wild Animals' (Bonn Convention), and signed at Bonn on 23 June 1979. (iiii) the agreement called 'Agreement Between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds' (ROKAMBA), and signed 6

Term	Definition
	December 2006.
Tamper	Tamper with an animal breeding place, means damage, destroy, mark, move or dig up the breeding place.

Table 9 Abbreviations

Abbreviation	Full term
APSDA	Abbot Point State Development Area
CAMBA	China-Australia Migratory Bird Agreement
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Act 1999*
DERM	Department of Environment and Resource Management
GHD AEC	GHD Animal Ethics Committee
HPPL	Hancock Prospecting Pty Ltd
JAMBA	Japan-Australia Migratory Bird Agreement
JORC	Joint Ore Reserves Committee
MNES	Matters of National Environmental Significance
Mtpa	million tonne per annum
NC Act	*Nature Conservation Act 1992*
ROKAMBA	Republic of Korea - Australia Migratory Bird Agreement
SMP	Species Management Program
TPA	*Trade Practices Act 1974*

8. Contact details

Table 10 Contact details of relevant parties relating to this SMP

Hancock Prospecting PTY Ltd	Level 8 307 Queen Street Brisbane QLD 4000 (07) 3231 9600 mail@hancockcoal.com.au
DERM	GPO Box 2454 Brisbane QLD 4001

9. References

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