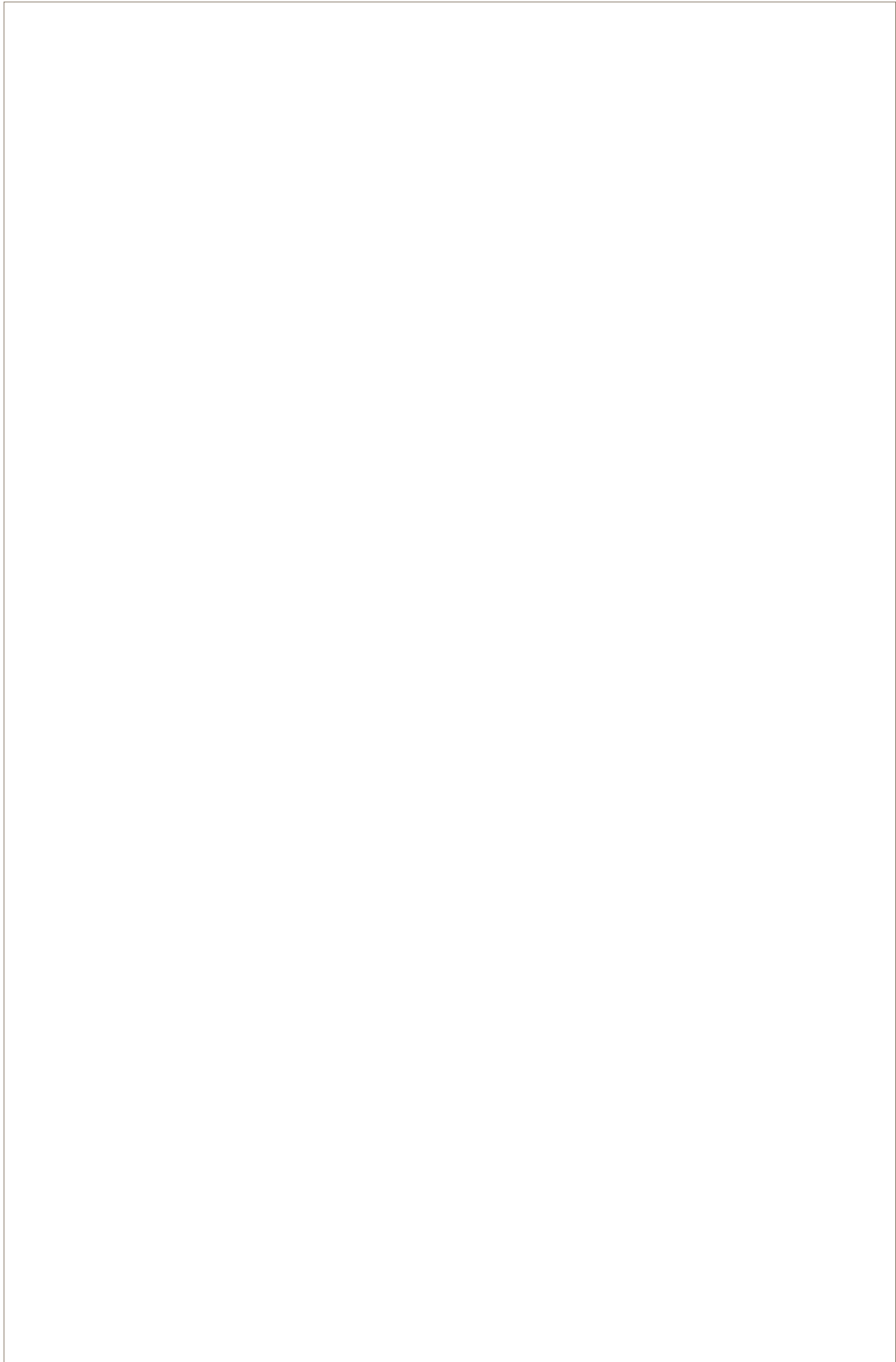




# CENTRAL QUEENSLAND INTEGRATED RAIL PROJECT

## Initial Advice Statement

December 5, 2011





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# List of Abbreviations

|                 |  |               |  |
|-----------------|--|---------------|--|
| <b>ACH Act</b>  | <i>Aboriginal Cultural Heritage Act 2003 (Qld)</i>   | <b>GRP</b>    | Gross Regional Product   |
| <b>APCT</b>     | Abbot Point Coal Terminal  | <b>HPCT</b>   | Hay Point Coal Terminal  |
| <b>BPCT</b>     | Barney Point Coal Terminal   | <b>IAS</b>    | Initial Advice Statement   |
| <b>CQCN</b>     | Central Queensland Coal Network  | <b>JORC</b>   | Joint Ore Reserves Committee   |
| <b>CSP</b>      | Corrugated Steel Pipe  | <b>MNES</b>   | Matters of National Environmental Significance, as defined by the <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> |
| <b>DBCT</b>     | Dalrymple Bay Coal Terminal  |               |  |
| <b>DPCT</b>     | Dudgeon Point Coal Terminal  | <b>NCWR</b>   | Nature Conservation (Wildlife) Regulation 2006   |
| <b>DEEDI</b>    | Queensland Department of Environment, Economic Development and Innovation  | <b>PCBC</b>   | Precast Concrete Box Culvert   |
| <b>DERM</b>     | Queensland Department of Environment and Resource Management   | <b>PCI</b>    | Pulverised Coal Injection  |
| <b>DEWR</b>     | Commonwealth Department of the Environment and Water Resources   | <b>RGCT</b>   | RG Tanna Coal Terminal   |
| <b>EIS</b>      | Environmental Impact Statement, as defined by Part 4 the <i>State Development and Public Works Organisation Act 1971</i> | <b>RE</b>     | Regional Ecosystems  |
| <b>EMP</b>      | Environmental Management Plan  | <b>SDPWOA</b> | <i>State Development and Public Works Organisation Act 1971</i>  |
| <b>EPBC Act</b> | <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>   | <b>SEWPac</b> | Department of Sustainability, Environment, Water, Population and Communities   |
| <b>ERA</b>      | Environmentally Relevant Activities  | <b>SPA</b>    | <i>Sustainable Planning Act 2009</i>   |
| <b>GAP</b>      | Goonyella to Abbot Point   | <b>ToR</b>    | Terms of Reference   |
|                 |  | <b>VM Act</b> | <i>Vegetation Management Act 1999</i>  |
|                 |  | <b>WICET</b>  | Wiggins Island Coal Export Terminal  |

# 1.0 Introduction

## 1.1 Background

QR National is evaluating the potential to develop an integrated rail network from the Galilee Basin to the ports in the east, in particular Abbot Point. The proposed Central Queensland Integrated Rail Project would service the growing needs of the Central and South Galilee Basin providing the Basin's mines with access to the ports of Central Queensland (Abbot Point, Dalrymple Bay, Hay Point and Gladstone). The project will also provide enhanced access to Abbot Point for the expanding and new mines of the Bowen Basin.

The Galilee Basin is one of the last remaining, undeveloped coal resources within Queensland and is expected to become the largest coal producing region in the State. As such, the Central Queensland Integrated Rail Project will be an essential part of opening up the Galilee Basin for export coal and will benefit the Central Queensland region, State of Queensland and the nation.

This Initial Advice Statement (IAS) introduces a proposal to provide a railway serving multiple mines between the Galilee Basin and Abbot Point and connecting to the existing Central Queensland Coal Network. The result will be one of the largest coal supply chains in Australia. The project considers the potential customers, growth areas and anticipated mine growth demand from both the Galilee and Bowen Basins to provide an integrated rail solution. This solution delivers the required levels of service through the utilisation of QR National's rail corridor, minimising environmental impacts through the consolidation of proposed corridors.

## 1.2 Queensland's Coal Industry

Commercial coal mining has been undertaken in Queensland since 1843. Today, Queensland's coal mining industry is one of our State's most important economic drivers and our largest export industry.

The value of the coal sector in Queensland is \$24.5bn per year, and is the most important export commodity to the State by value, contributing \$1.8bn in revenues generated from royalties and other charges (Source: Office of State Revenue, 2010; Annual Coal Statistics, 2009-10). Coal mining is a major provider of wealth in Queensland as the industry is the foundation of many regional communities, providing over 20,000 jobs state-wide.

There are two primary coal basins in Central Queensland - the Galilee Basin in the north and the Bowen Basin in the south.

The Galilee Basin spans over 247,000 km<sup>2</sup> of land and holds over 14 billion tonnes of Joint Ore Reserves Committee (JORC) compliant coal that has been identified by several proponents. Of the State's coal inventory, Permian coals within the Galilee and Bowen Basins account for approximately 71 %. Of this, shallow coal potentially amenable to open-cut mining makes up about 55 % of the inventory with the remaining 45 % present at greater depths. Thermal coals (including Pulverised Coal Injection coals) represent about 65 % of the inventory, with the remainder being identified as coking coal. The Permian coal measures contain almost 100 % of the identified coking coal resources (DEEDI, 2011).

Currently there are numerous operating coal mines in the Bowen Basin. In the Galilee Basin at least five major coal mines are proposed. These proposed mines are anticipated to have a combined capacity of more than 200 million tonnes per annum (mtpa) of thermal coal.

# 1.0 Introduction

## 1.3 Galilee Basin

Significant mining operations have yet to be established in the Galilee Basin, but multiple mines are proposed. A number of these projects include the intended construction of dedicated rail lines. With at least four separate lines currently being proposed to service the Galilee Basin (**Figure 1**), it is clear that there is both a need and an opportunity to consider the connection of the rail infrastructure into the existing Central Queensland Coal Network in order to:

- reduce overall environmental impacts
- minimise impacts to the community
- optimise use of existing infrastructure
- significantly reduce potential greenfield corridor(s) footprint
- provide an interconnected network for greatest flexibility
- leverage off the existing network through the use of operational and technical innovations
- provide for future growth and entry of new players to the market
- provide flexibility of export gateways i.e. ports
- utilise existing operational and technical experience.

## 1.4 Project Overview

QR National recognises that, unlike the evolution of rail networks for Queensland's pioneer coal networks built from the 1960s, the Galilee Basin is an opportunity to design a world-class supply chain solution to haul coal from mine to port as efficiently as possible.

The Central Queensland Integrated Rail Project is QR National's proposed rail solution for the Galilee Basin.

The proposed solution offers the advantages of a greenfield railway with the benefit of a consolidated corridor. It is designed to deliver flexibility and adaptability in response to customer demands.

QR National's integrated rail solution will be designed as a safe, reliable, cost effective solution for resource customers in the Galilee and Bowen Basins seeking to be part of an efficient mine-port export chain. In addition to the primary function as a rail corridor, options for co-location of other services will also be considered for parts of the corridor.

The proposed solution leverages off the existing brownfield rail corridor from the Port of Abbot Point through the Newlands coal system to a junction leading to a new greenfield corridor to serve mines and customers in the Central and South Galilee as shown on Figure 2.

The greenfield corridor in turn comprises three distinct sections:

I. Diamond Creek to Newlands Junction

II. Central Galilee to Diamond Creek – this section is proposed to follow an alignment that is broadly consistent with that proposed by Adani Mining Pty Ltd in its Initial Advice Statement

III. South Galilee to Galilee Junction – this section is proposed to follow an alignment that is broadly consistent with that proposed by Waratah Coal, a fully owned subsidiary of Mineralogy Pty Limited in its Environmental Impact Statement.



# 1.0 Introduction

Connections to mines in the Central and South Galilee Basin, even though not explicitly shown on the figure, are considered as optional extensions to the greenfield rail corridors and included in the project.

Through this proposed solution, QR National forecasts it will be able to reduce the need for a totally new greenfield rail corridor in this region by up to a third, or a minimum 200km, when compared to the rail corridors being proposed by some other proponents.

## 1.5 Economic, Environmental and Social Benefits

It is estimated that the project will require a capital investment of at least \$2 billion and is expected to occur over a 5-10 year period. There will be approximately 2,500 people employed during construction. The railway will employ approximately 800 permanent operational staff and will operate 24 hours a day, seven days a week.

QR National has identified a range of opportunities to consolidate corridors and to reduce the environmental and social impacts of developments in the Galilee Basin. By consolidating along existing rail corridors, QR National plans to minimise disruption to current land holdings, and as a result, reduce environmental and community impacts. Where there are impacts, mitigation, compensation or offset measures will be developed and implemented during the design, construction and operation phases so that any residual impacts are deemed acceptable. In this regard, project development will conform to the environmental and social safeguard requirements of the State and Federal governments of Australia.

## 1.6 Purpose and Scope of the IAS

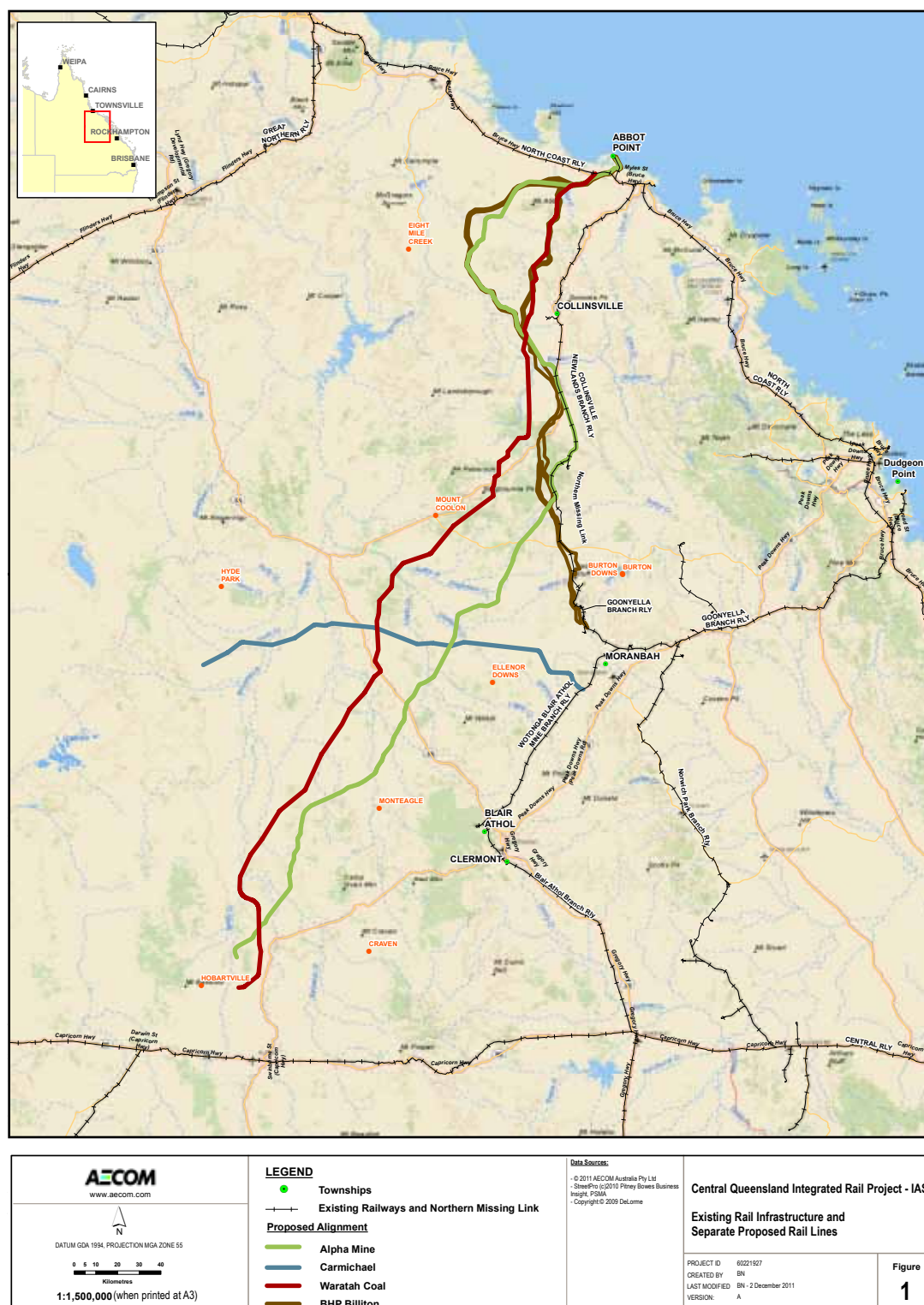
This document provides the Queensland Government and other stakeholders with initial advice on the proposed project. The IAS contains an overview of the proposal and preliminary project description along with a brief discussion of the key environmental and socio-economic issues associated with its development.

The document also seeks to fulfil the requirements of an IAS for the consideration of the Coordinator-General in deciding whether to declare the Project to be a 'significant project' under Section 26(1) (a) of the Queensland State Development and Public Works Organisation Act 1971, for which an Environmental Impact Statement (EIS) is required.

The IAS is a scoping document and does not purport to provide an in-depth analysis of the Project. In particular, this IAS is not intended to exhaustively cover the issues and legislation that may be relevant to the proposed project. However, the information in this document will assist in informing the development of the Terms of Reference (ToRs). Technical and detailed analysis of the project will be provided in the EIS.

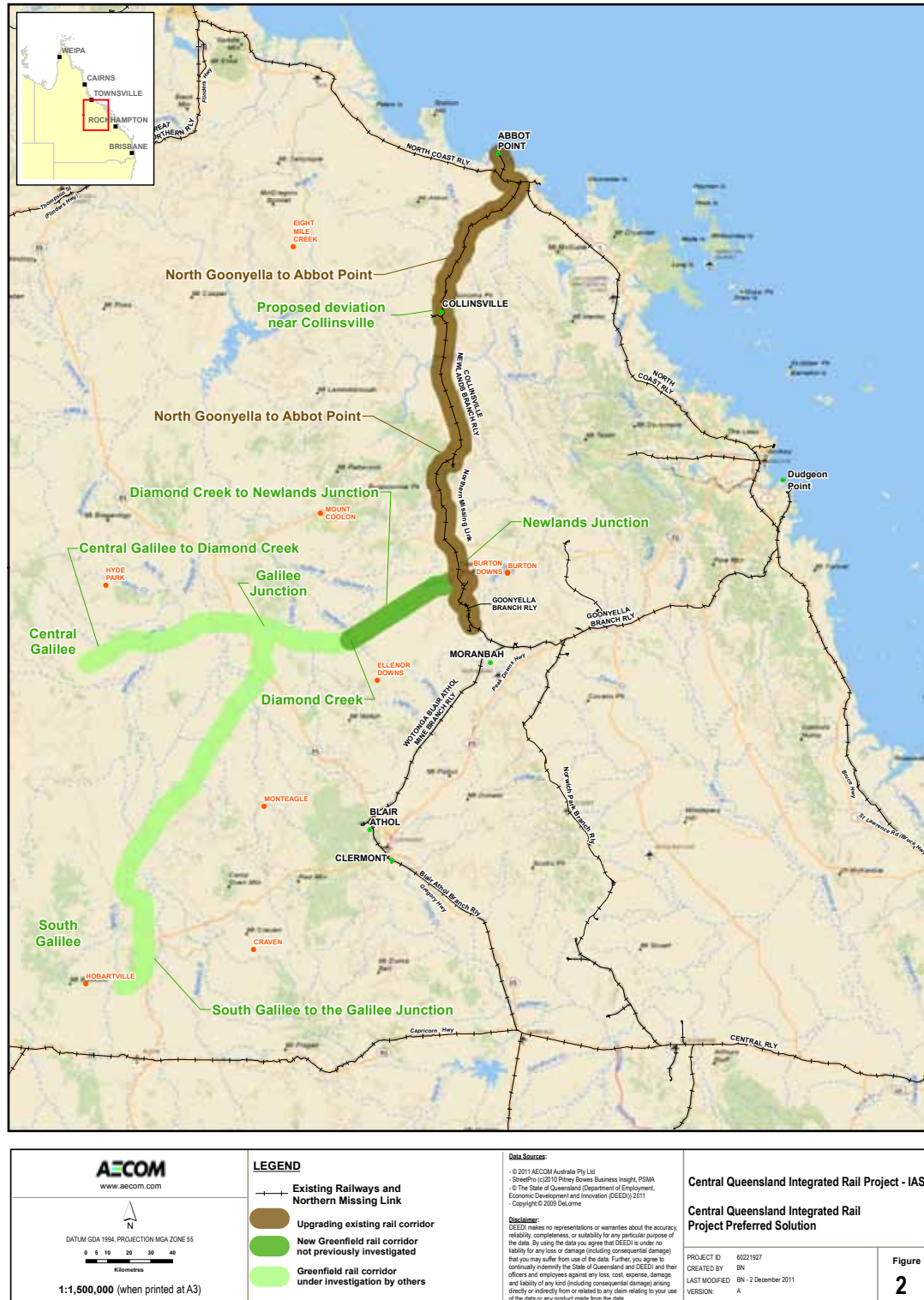
# 1.0 Introduction

FIGURE 1 EXISTING RAIL INFRASTRUCTURE AND SEPARATE PROPOSED RAIL LINES



# 1.0 Introduction

FIGURE 2 PROJECT PREFERRED SOLUTION







## 2.0 The Proponent

### 2.1 QR National

QR National is Australia's largest rail freight operator with over 145 years of experience, operating in key freight sectors and supply chains across the country. QR National is focused primarily on large, heavy haul rail tasks such as the transportation of coal, iron ore, other minerals, agricultural products and general freight as well as containerised freight. QR National is the world's largest rail transporter of coal from mine to port for export markets, hauling an average 500,000 tonnes per day in 2009-10.

QR National operates and manages approximately 2,300km of largely dedicated and purpose built, heavy haul rail infrastructure. Known as the Central Queensland Coal Network (CQCN), the 99 year lease arrangements with the State (Queensland Treasury Holdings Pty Ltd, the Department of Transport and Main Roads and Queensland Rail) commenced in July 2010. QR National also provides a range of specialist rail engineering, construction and maintenance services such as track, traction power, signalling, telecommunications, structures and associated assets; along with emergency repair, response and recovery.

QR National is headquartered in Brisbane, Queensland, in accordance with the requirements of the Transport Infrastructure Act 1994 (Qld). It has business operations in Queensland, New South Wales, Victoria, South Australia and Western Australia. QR National employs approximately 9,000 people and controls tangible fixed assets with a book value of \$9.2bn (including assets under construction) as at 30 June 2011. Assets include 746 locomotives and 16,330 wagons.

The Project Proponent is QR Limited. Contact details for the Proponent for the Central Queensland Integrated Rail Project are provided in **Section 2.2** below.

### 2.2 Contact Details

Contact details for this project are:

|              |  |
|--------------|--|
| Name         | Robert Stuart  |
| Position     | Group Manager Major Projects                                   |
| Organisation | QR Limited   |
| Address      | Level 14, Rail Centre 1, 305 Edward Street,<br>Brisbane Q 4000 |
| Email        | robert.stuart@qrnational.com.au                                |
| Phone        | +617 3235 3707   |

### 2.3 Advisors

QR National has commissioned AECOM to assist with the development and submission of this IAS.

AECOM is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 45,000 employees around the world, AECOM serves clients in approximately 125 countries. In Australia and New Zealand, AECOM has more than 4,000 professionals working in more than 25 offices. More information on AECOM and its services can be found at [www.aecom.com](http://www.aecom.com).



## 3.0 The Nature of the Proposal

### 3.1 Scope of the Project

The Central Queensland Integrated Rail Project is an integrated heavy haul rail project that proposes to provide access for multiple mine owners to a reliable and efficient rail transport network between the Galilee and Bowen Basins and the ports of Central Queensland (Abbot Point, Dalrymple Bay, Hay Point and Gladstone). It will also provide connections to the existing rail infrastructure and thereby enable access to alternative destinations serviced by the rail network.

The project considers the potential customers, growth areas and anticipated mine growth demand from the Galilee and Bowen Basins to provide an integrated rail solution. This solution delivers the required levels of service through the utilisation of QR National's rail corridor, minimising environmental impacts through the consolidation of proposed corridors.

The Central Queensland Integrated Rail Project, as illustrated in Figure 2, leverages off the existing, brownfield rail corridor from the Port of Abbot Point through the Newlands coal system to a junction leading to a new, greenfield corridor to serve mines and customers in the Central and South Galilee.

The greenfield corridor in turn comprises three distinct sections:

I. Diamond Creek to Newlands Junction

II. Central Galilee to Diamond Creek – this section is proposed to follow an alignment that is broadly consistent with that proposed by Adani Mining Pty Ltd in its Initial Advice Statement

III. South Galilee to Galilee Junction – this section is proposed to follow an alignment that is broadly consistent with that proposed by Waratah Coal, a fully owned subsidiary of Mineralogy Pty Limited in its Environmental Impact Statement.

The project will also include optional extensions of the proposed greenfield corridors to connect with proposed mines in the Central and South Galilee. The connection of the greenfield corridor to the existing rail network is currently proposed at a connection near North Goonyella. This, however, will be subject to more detailed investigation and could shift further north to the Leichhardt Range area near Newlands.

Upgrades of the existing Newlands/Goonyella to Abbot Point/Western and Northern Goonyella rail systems (apart from major deviations) are not included in the scope of this project and are proposed to be managed through a separate process as part of the normal expansion of existing Goonyella and Newlands networks. The EIS will, nevertheless, take into consideration the downstream impacts of the existing networks in evaluating the infrastructure options required for this project.

## 3.0 The Nature of the Proposal

### 3.2 Project Need, Justification and Alternatives Considered

#### 3.2.1 Project Rationale

Queensland's economy has a strong emphasis on exports, particularly from the natural resources sector. Industries within this sector (rural and mining) are important contributors to growth in the Queensland economy. These industries are typically regionally based. As a result, all of Queensland's ports, except Brisbane, are net exporters and many, such as the port facilities at Abbot Point, are dedicated solely to exports.

Queensland continues to be a major supplier of coal to overseas users. With trade in coal forecast to increase dramatically over the foreseeable future, the freight task for Queensland is expected to equally increase. To meet the growing global demand, the significant coal reserves in the Galilee Basin will continue to be opened up to mining. New rail connections are needed to meet the demands of the current and future mines of the Galilee Basin.

The provision of the project has been identified as critical to enhancing the export capacity of the rail network to meet requirements for the export of thermal and coking coal and potentially other products from the region such as agriculture and minerals.

In order to demonstrate the role of the project within Central Queensland, it is essential to identify the relationship of the project with other projects within the region. Key projects that are proposed for the region are major coal mines, many of which also plan to build rail lines.

There are a number of major development proposals to open up the Galilee Basin and additional ones to undertake major enhancements within the Bowen Basin. These are generally being developed on the basis of optimising the proposed transportation corridors for the individual developments. QR National's solution is focused on serving the entire region - now and into the future.

The EIS will detail the rationale for the project and include information on specific aspects to allow stakeholders to have input and gain understanding as the project develops to its final form. Information will be provided about the benefits and consequences of proceeding with the project.

#### 3.2.2 Objectives and Priorities of Government Policies and Strategies

*The Rail Network Strategy – Policy Guidelines for Queensland's Rail Network* (Department of Transport and Main Roads, 2009) has a 2031 horizon and "is intended as a guide for the ongoing management and future development of the rail network in Queensland to ensure that it supports rail operations necessary to meet the integrated transport needs of industry and the community". Realisation of the Rail Network Strategy is expected to provide a rail network which:

- is safe for all stakeholders
- benefits the environment
- is based on informed, prudent and responsible decision-making
- supports government priorities.

Key components of the Rail Network Strategy are:

- the rail network supports the optimum performance of the total transport system
- the network supports the rail transport needs of the community
- the rail network supports the rail transport needs of industry
- exploits opportunities for future growth
- provides the framework for informing the State investment in the rail network
- facilitates external investment in the rail network
- effective management of the rail network asset.



## 3.0 The Nature of the Proposal

### 3.2.3 Preferred Option, Alternatives and ‘Do Nothing’

#### 3.2.3.1 Preferred option

The Central Queensland Integrated Rail Project comprises greenfield solutions from the South and Central Galilee Basin, including optional extensions of the greenfield rail to proposed mines, connecting to a brownfield corridor on the existing Goonyella and Newlands rail systems.

The greenfield corridor in turn comprises three distinct sections:

I. Diamond Creek to Newlands Junction

II. Central Galilee to Diamond Creek – this section is proposed to follow an alignment that is broadly consistent with that proposed by Adani Mining Pty Ltd in its Initial Advice Statement

III. South Galilee to Galilee Junction – this section is proposed to follow an alignment that is broadly consistent with that proposed by Waratah Coal, a fully owned subsidiary of Mineralogy Pty Limited in its Environmental Impact Statement.

The current preferred option is to connect to the existing rail network near North Goonyella, however this is subject to more detailed investigation and this connection point could shift further north to the Leichhardt Range area near Newlands.

It is the preferred option as it offers the advantages of a greenfield railway with the benefit of a consolidated corridor. It delivers flexibility and adaptability within the system design in response to customer demands and changing circumstances.

Further, QR National is the only proponent among the various proponents for the Galilee Basin rail corridors, that can demonstrate a track record in heavy haul rail that is appropriate for enabling the development of what will become Queensland’s largest coal producing area.

#### 3.2.3.2 Alternatives

Multiple mine-specific proposals would result in more than 650km of greenfield rail development under the management of multiple operators. Various rail gauges may also be adopted in line with individual business model requirements.

#### 3.2.3.3 “Do nothing” option

Suitable rail infrastructure is necessary to support mine development in the Galilee Basin. Without competitive rail infrastructure, development of the 14 billion tonnes of coal within the Galilee Basin could be constrained.

The ‘Do nothing’ option will also be discussed in the EIS, outlining how the existing circumstances may be affected if the project does not proceed.

## 3.0 The Nature of the Proposal

### 3.2.4 Key Strategic Benefits

QR National's rail solution for the Galilee Basin is designed to ensure the CQCN is capable of expanding, as and when required, in line with the plans of coal customers, resource customers and supply chain participants including the ports of Abbot Point and Hay Point.

QR National believes there are significant advantages in consolidating along existing corridors. Consolidation offers major benefits to customers, the community and the Queensland Government.

By consolidating along existing rail corridors, QR National plans to minimise disruption to current land holdings, and as a result, reduce environmental impacts and community impacts.

The advantage of QR National's rail solution is that it will reduce the need for a totally new greenfield rail corridor in this region.

A key feature of the project is that it can expand to meet demand as required by growth through leveraging off the existing rail network providing the opportunity for both reduced risk and cost.

## 3.3 Route Selection

### 3.3.1 Corridor Options and Constraints

The corridors that make up the Study Area are shown in **Figure 2**. A more detailed assessment of constraints and opportunities of the preferred option together with alternatives will be undertaken. The final rail corridor will require a nominal width of 120m. Following confirmation of the preferred corridors, refinements will be made to determine the optimal alignment within that corridor.

The key objectives of the project alignment assessment are to:

- determine the right balance of lowest cost, lowest environmental impact and lowest risk option to deliver the specified coal transport task
- identify viable operational scenarios
- minimise greenfield impacts.

In order to identify the most suitable railway corridor, assessment of key economic, engineering, geographic, geotechnical, environmental and social factors will be undertaken. Initial corridor selection will consider the following key constraints and opportunities:

- disturbance to areas of known ecological value
- disturbance to existing landholders, land use and possible sensitive receptors
- corridor length
- terrain constraints/limitations
- disturbance to areas of known heritage values
- sensitive lands e.g. national parks, nature refuges, World Heritage areas and state forests
- the ease of access for construction and operations/maintenance
- disturbance to and potential interference with existing infrastructure
- construction requirements, such as:
  - inundation areas
  - soil stability and erodability
  - number of large watercourse crossings
  - number of affected infrastructure crossings.

## 3.0 The Nature of the Proposal

In determining the preferred corridor and alignment, key environmental studies, value engineering and detailed design studies will cover the following factors:

- the refinement/improvement of possible routes and the testing of other potential options
- environmental, land tenure and cultural heritage issues affecting route design and selection
- co-location opportunities with other linear infrastructure
- technology and recommendations for signalling and telecommunications issues
- civil engineering works
- structural engineering, including bridging and culverts
- interactions with roads, access points and other linear infrastructure corridors
- rail maintenance and provisioning facilities
- rolling stock selection for the preferred alignment
- temporary construction activities
- a geotechnical desktop study and investigation of local construction materials
- a desktop study of available hydrology data for water supply and flooding issues
- power supply and utilities options
- operational interfaces with existing rail network.

### 3.4 Components, Developments, Activities and Infrastructure that Constitute the Project to be Declared Significant

The development for which declaration is sought is a single integrated heavy haul rail solution from the Galilee and Bowen Basins to the export gateways with sufficient capacity to meet market demand.

Physical features of the proposed development are:

- transportation and rail corridors
- embankments, bridges and drainage structures
- formation and track
- passing loops and stabling yards
- signals and communication equipment
- potential electrification of the proposed railway at a future time
- buildings, structures and equipment to support and facilitate a railway
- rail yards including maintenance and operational facilities
- roads, occupational and open level crossing, grade separation structures, relocation of existing infrastructure and access roads and track to the proposed railway.

## 3.0 The Nature of the Proposal

### 3.4.1 Proposed Railway Design Parameters

Table 1 describes the proposed railway design parameters. These parameters meet QR National operating standards, provide consistency with the existing network, meet needs of users, and provide operational efficiencies.

TABLE 1 PROPOSED RAILWAY DESIGN PARAMETERS

| DESCRIPTION              | PARAMETER                                       |
|--------------------------|---|
| Corridor width (nominal) | 120m – Dependant on greenfield/brownfield scope |
| Design Speed             | 80 km/hr loaded, 100 km/hr unloaded             |
| Track                    | Narrow Gauge / Standard Gauge                   |
| Flood immunity           | 1 in 100 years                                  |

### 3.4.2 Corridor and Land Acquisition for the Greenfield Portion

The project will document a detailed stakeholder engagement strategy to consult directly affected landowners and provide a path for comments to feed into the refined design and alignment of the rail line. Land access during the investigation phase would be undertaken as per legislative processes.

Land for the proposed railway will need to be acquired. Care will be taken during the design stage to minimise impacts on landowners and the community.

A range of options are available to reach agreement with all directly affected landowners. It is planned to negotiate in good faith with directly affected landowners with the object of mutually agreeing to acquire the land required. Landowners will be appropriately compensated for the acquisition of any land. QR National has a demonstrated track record in engaging communities and effectively liaising with the affected landowners.

QR National will enter into discussions with the State and explore further options during the EIS process.

### 3.4.3 Access Tracks for Construction and Maintenance

Vehicular access to the railway will be required for construction and for ongoing maintenance purposes. Impacts will be minimised wherever possible by utilising existing public and private tracks, or by constructing new tracks in specified areas to ensure the least disturbance to the existing topography and vegetation.



## 3.0 The Nature of the Proposal

### 3.5 External Infrastructure Requirements

#### 3.5.1 Existing Rail Network

QR National is the rail manager of a significant rail network in Central Queensland that services or is capable of servicing all existing and proposed coal export ports in the region. It is planned to leverage off this existing brownfield infrastructure and enhance it to accommodate the growing export coal market. This is a major opportunity to provide options to access all ports, to minimise environmental impacts on the wider community and achieve the required outcomes of further developing the Bowen Basin and opening the Galilee Basin coal fields in an economic and timely manner. Use of greenfield access to new and existing terminals will be considered and may form part of the final solution in line with customer requirements. QR National will actively engage in discussions with all potential customers with regard to the timing and ramp up profiles of their coal throughput and arrive at an appropriate infrastructure and operational solution.

#### 3.5.2 Ports

The existing or enhanced rail network provides or is capable of providing connections to all existing and proposed Central Queensland coal export terminals. QR National's approach is to leverage off the existing rail network and to provide options for connectivity to various coal terminals.

The following provides a summary of the Central Queensland ports:

##### Abbot Point Coal Terminal (APCT)

- existing terminal T1 that is currently being expanded to 50mtpa capacity and is capable of being further expanded
- proposed terminal T2 is located adjacent to the existing terminal and can be accessed from the existing or an enhanced rail network
- proposed terminal T3 is located adjacent to T2 and can be accessed from the existing or enhanced rail network
- proposed terminal T4 to T7 are planned to be located adjacent to the existing North Coast Line railway for easy rail access within the Abbot Point State Development Area with preferred developers still to be determined.

##### Hay Point Area

- existing Hay Point Coal Terminal (HPCT) is being expanded to 55mtpa capacity
- existing Dalrymple Bay Coal Terminal (DBCT) has a rated capacity of 85mtpa
- proposed Dudgeon Point Coal Terminal (DPCT) is to be located north of the existing terminals and has a rail corridor to provide a connection to the existing rail network.

##### Gladstone

- R G Tanna Coal Terminal (RGCT) has an existing capacity of 69mtpa and is planning further expansions
- Wiggins Island Coal Export Terminal (WICET) balloon loop and dump station is proposed to be located adjacent to and connected to the existing North Coast Line just north of Gladstone
- Barney Point Coal Terminal (BPCT) is proposed to be closed for coal traffic once the WICET is fully operational.

## 3.0 The Nature of the Proposal

### 3.6 Timeframes for the Project

The environmental approvals process is anticipated to commence in late 2011 with project approvals being obtained in mid 2013. It is anticipated the environmental assessment would be submitted for formal public comment and government review in late 2012. The following is an approximate anticipated timeframe for the project:

|            |   |
|------------|---|
| Mid 2011   | Commencement of preliminary engineering and environmental studies |
| Mid 2012   | EIS submitted   |
| Early 2013 | EIS assessment and approval                                       |
| 2015       | Construction complete   |

### 3.7 Construction and Operational Processes

Activities involved in the construction of the proposed rail line include:

- construction of access roads
- establishment of workers camps
- establishment of locomotive and maintenance provisioning yards
- construction of laydown areas, camps and compounds
- quarries and borrow pits
- clearing of corridor
- bulk earthworks and formation
- placement of capping and ballast
- placement of sleepers and rail
- future electrification
- installation of support infrastructure (signalling, lighting, communications etc.)
- corridor restoration/rehabilitation.

#### 3.7.1 Access Roads

Prior to construction, access roads will be identified for use during construction. Existing major roads will be used to provide access to the rail corridor; however, some additional access paths may need to be negotiated with landowners to obtain access to sites if the construction contractor requires them. Where private farm roads are proposed to be used, their use will be negotiated with the landowner. These activities will be managed by QR National in accordance with its standard network corridor access protocols and procedures.

#### 3.7.2 Construction Camps

It is expected that the construction workforce will be housed in temporary camp accommodation at strategic locations along the route. The temporary construction camps will be designed to provide accommodation to industry standards and will comply with all relevant legislation and regulations,

## 3.0 The Nature of the Proposal

including the required building codes and occupational health and safety guidelines.

The precise locations of construction camps, site offices, storage areas and compounds have not been determined at this time. Potential camp sites will be investigated during the EIS phase in consultation with local authorities and communities to minimise the impacts during the construction phase.

### 3.7.3 Construction

The following construction activities are likely to be undertaken on the project:

Civil works including:

- earthworks construction
- drainage construction
- road work construction
- bridge work construction.

Rail construction including:

- track laying
- signalling installation
- telecommunications installation
- provision of locomotive and maintenance provisioning yards.

A maintenance access track will also be run within the project corridor. The final design, location and standard of the maintenance access track will be determined as part of the detailed design.

The following construction equipment is likely to be required for the project works:

- civil works: dozers, graders, excavators, scrapers, dump trucks, rollers, backhoes, water carts, cranes and piling rigs
- track works: track layer, ballast wagons, rail welding machine, tamper, water carts, excavators and backhoes
- building works: fuel storage, yards, provisioning depots.

The bulk earthworks would be undertaken using scrapers for the short hauls and with excavators and dump trucks used for long distance earthmoving. It is intended that the majority of the general fill will be obtained from the cutting excavations. The design of the alignment will seek to maximise the balance between cut and fill, and minimise haul distances. The design will be optimised during detailed design to account for likely quantities of unsuitable material obtained from detailed geotechnical investigations, and the requirement for selected, quality fill material.

Track laying is likely to be undertaken using an automated, integrated machine that lays sleepers at correct spacing and brings in the rail in one continuous pass.

### 3.7.4 Ballast

Currently the ballast supply for the project has not been defined. It is intended that the ballast is sourced within close proximity to the rail corridor and the Study Area from existing or new quarry sites. Potential locations to source ballast will be identified as part of geotechnical investigations planned for the detailed design.

## 3.0 The Nature of the Proposal

### 3.7.5 Water Supply

Water will be required for the following construction activities on the project:

- dust suppression
- weed wash-down bays
- earthworks material conditioning
- capping material conditioning
- access track and haul road maintenance
- rehabilitation
- temporary construction camps.

A combination of water bores and existing water pipelines may be used to supply water for the construction activities.

### 3.7.6 Operation and Maintenance

Operation and maintenance of the rail line will be undertaken by QR National or contractors on behalf of QR National. The operational workforce may be accommodated in existing dwellings at appropriate locations.

Operation of railways is a highly automated process and will be handled from within an existing system control centre for coordinated operation with the existing network.

### 3.7.7 Decommissioning

The design life of a railway is typically in excess of 100 years. After that time, it would be reasonable to expect that replacement/refurbishment work would occur to bring the equipment to the required level of performance and reliability. Accordingly, it is not anticipated that the rail line would be decommissioned in the foreseeable future.

## 3.8 Workforce Requirements during Construction and Operation

The EIS will detail the workforce requirements for the project based on the final construction methodologies. It is currently anticipated the construction of the project within the required timeframes will require approximately 2,500 people working in a number of construction teams.

The railway will employ approximately 800 permanent operational staff and will operate 24 hours a day, seven days a week. Additional personnel will be required for scheduled maintenance periods and there will be numerous contractors to assist and maintain the ongoing demands of the plant.

## 3.9 Economic Indicators

### 3.9.1 Export Coal Markets

The market for seaborne thermal coal has grown strongly in the past five years as demand, especially from China and India, increased significantly to support the energy intensive growth in these emerging markets. Demand from China and India is not being totally satisfied from domestic sources, as their



## 3.0 The Nature of the Proposal

demand growth is outpacing their domestic supply. Overall, global thermal coal import demand is expected to increase by approximately 28 % between 2011 and 2015, from 728mtpa to 930mtpa.

Queensland is well positioned to satisfy some of the demand from emerging economies for imported coal, particularly those in the Asian region, due to the large scale of reserves, proximity to the Asian market, and comparative high quality thermal coal to other major exporting nations. Australia currently is the world's fourth largest coal producer behind China, the United States and India and is the world's largest seaborne coal exporter.

The value of the coal sector in Queensland is \$24.5bn per year, and is the most important export commodity to the State by value, contributing \$1.8bn in revenues generated from royalties and other charges. Coal mining is a major provider of wealth in Queensland as the industry is the foundation of many regional communities, providing for over 20,000 jobs State-wide. The development of the Galilee Basin in Queensland provides opportunity for further regional economic development and provides strong financial benefits to the State.

### 3.10 Financing Requirements and Implications

This is a significant rail project that will open up major developments in the Galilee Basin, and the expansion of the Bowen Basin coal fields. It is expected to be developed in a number of stages over multiple years with overall development cost estimates expected to be at least \$2 billion. Timing of the infrastructure build and deployment of rollingstock will be linked to the development of mines and ports to support the transport task and is expected to occur over a 5 to 10 year period in line with the coal tonnage ramp up.

The project will be staged with a combination of greenfield and brownfield rail developments to leverage off the existing rail network with the objective to minimise development costs and environmental impacts. It is anticipated that initial expenditure on infrastructure, rollingstock and facilities will be minimised when tonnage from the mines is low and progressively increased as tonnages ramp up.

The number and size of trains, together with the size and location of infrastructure build, are expected to follow progressive development requirements as commercial arrangements necessitate. This is similar to the development process that has occurred with the existing Central Queensland rail network and operations where development and growth is linked to, and aligned with, the commercial development of mines and ports.

QR National has been the transport company that has been largely responsible for and facilitated the development of the existing Central Queensland coal rail network and operations. It has a long history of working with customers and other supply chain stakeholders to provide rail transportation solutions to support the economic development of the State.

In more recent years, this expertise has been broadened to similar activities in the Hunter Valley in New South Wales and Western Australia. One current example of QR National's capacity to fund and deliver such developments is the \$1.1 billion Goonyella to Abbot Point (GAP) Project. This project is connecting the Goonyella and Newlands rail systems and providing additional transport linkages. The expansion of brownfield rail networks and rail operations will facilitate the expansion of mines in the Bowen Basin and an expansion of the Abbot Point Coal Terminal. This project is being delivered within budget and on time for commissioning in January 2012.

Most recently, QR National signed an agreement on the 5th September 2011 with a consortium of coal companies to construct the \$900 million Wiggins Island Rail Project to support a new export terminal at Gladstone.



## 4.0 The Location of Key Project Elements

### 4.1 Location

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The project Study Area, located in Central Queensland, is shown in **Figure 2**. It covers the area broadly defined by the existing rail corridor between Abbot Point and Moranbah and the corridors west to Central Galilee and south towards Alpha. The local government areas included in the Study Area are Whitsunday, Isaac and Barcaldine.

### 4.2 Tenure

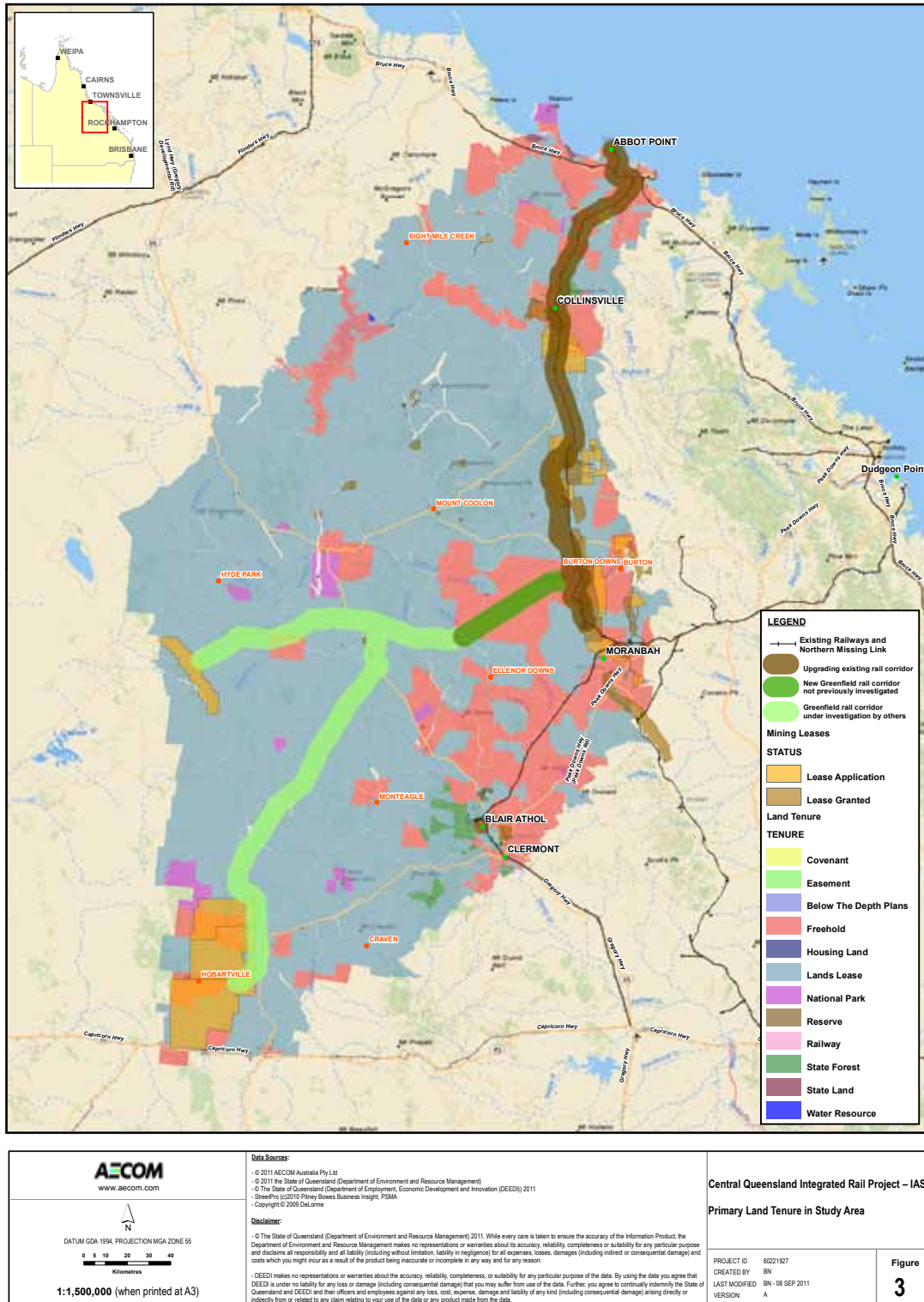
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The proposed project traverses lands administered by two tiers of government (local and state) and involves numerous land tenure types and land uses.

**Figure 3** provides an overview of land tenure type, and as it shows, the primary tenure is leasehold, with freehold making up the bulk of the remainder. Mining leases and state forest also occur within the Study Area.

## 4.0 The Location of Key Project Elements

FIGURE 3 PRIMARY LAND TENURE IN STUDY AREA



## 5.0 Description of the Existing Environment

### 5.1 Natural Environment

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#### 5.1.1 Geology, Geomorphology and Soils

The project extends over a large part of Central Queensland and as such the topography, geology and soil composition varies greatly. Detailed field studies will be required to both confirm the existing mapping and investigate areas where detailed ecosystem mapping is not available.

Underlying geology influences topography and soils. The regional geology is shown in **Figure 4**.

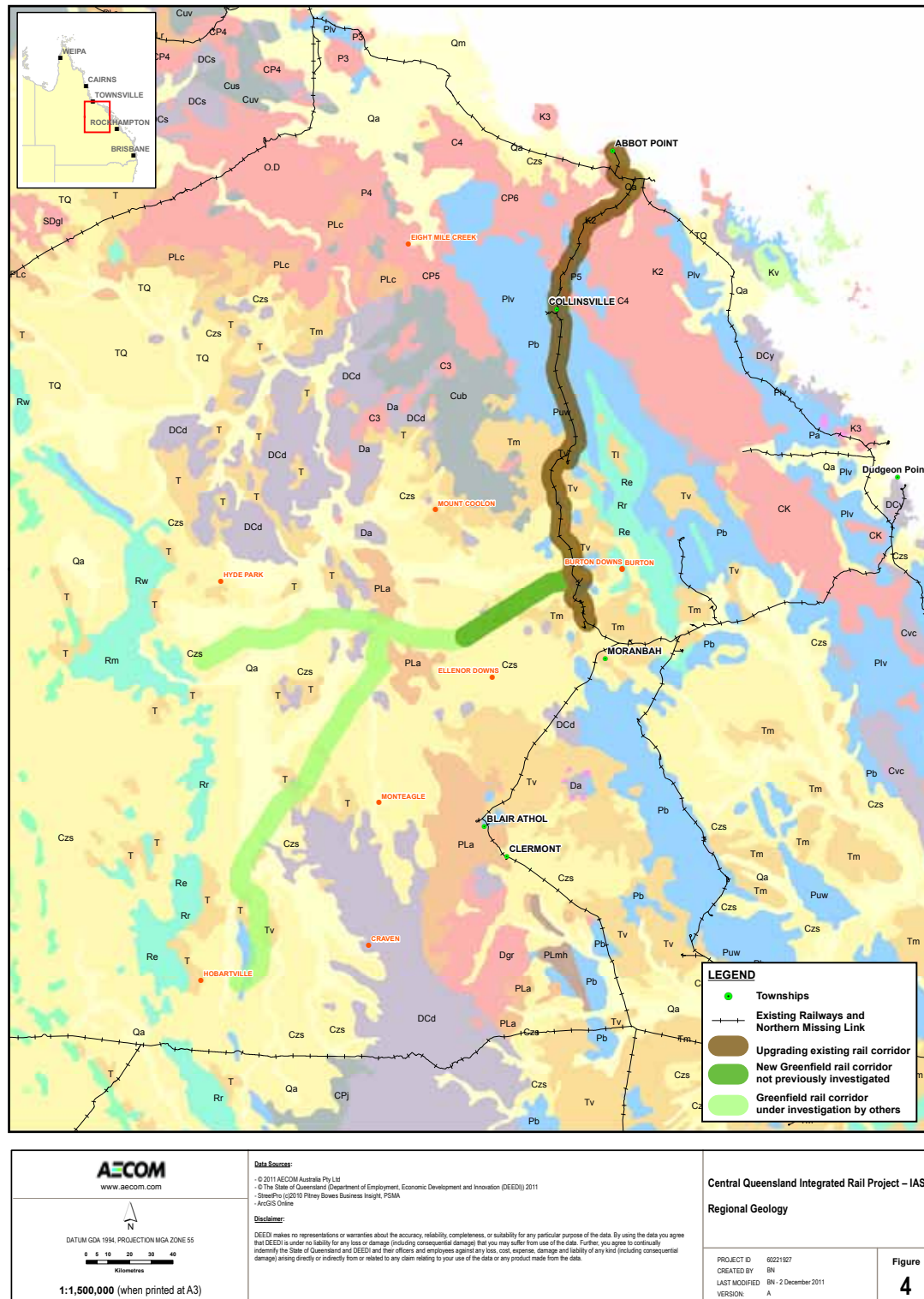
Soil types vary significantly, however a key soil type that needs to be considered are the vertosols or black soils as shown in **Figure 5**. These are typically clay soils with shrink-swell properties that exhibit strong cracking when dry. Shrinking and swelling causes strong physical pressures within cracking clays, which show within the soil structure, and may impact on the long-term structural integrity of above-ground development. Consequently, engineering costs associated with developing infrastructure on these soils are often high.

Clearing and earthworks within the final alignment can create a potential erosion risk. Assessment of soil types and erodibility will be undertaken as part of the assessment studies. Measures will be implemented to limit the adverse impacts of soil erosion.

The clearing of vegetation around waterways and drainage lines will be minimised where possible to restrict the release of additional sediments into waterways during construction and maintenance. An erosion and sediment management plan will be provided in the EIS detailing how the risk of soil erosion will be managed for the project.

# 5.0 Description of the Existing Environment

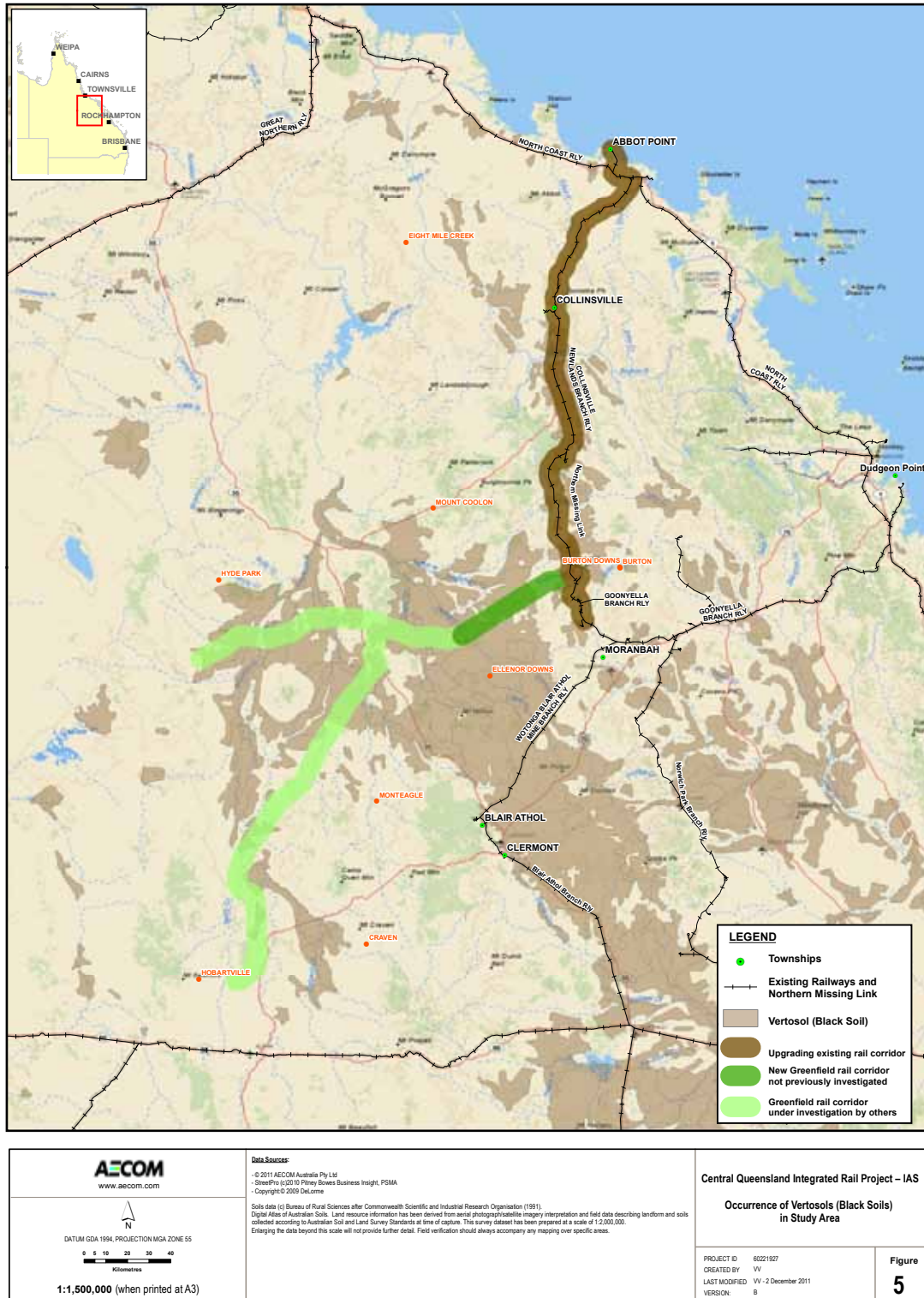
FIGURE 4 REGIONAL GEOLOGY





# 5.0 Description of the Existing Environment

**FIGURE 5 OCCURRENCE OF VERTOSOLS (BLACK SOILS) IN STUDY AREA**



## 5.0 Description of the Existing Environment

### 5.1.2 Protected Areas and Wetlands

The final rail line will cross numerous waterways and flooding areas in a number of water catchments (**Figure 2**). The Study Area transects a number of major river catchments, including:

- Belyando River
- Isaac River.

There are Wetlands of National Significance that are within the Study Area (**Figure 6**). The preferred alignment will be located to minimise disturbance wherever possible.

Disturbance to significant wetlands will be minimised by design as they will form a constraint during the corridor selection process.

The potential impact to water quality is likely to be highest during the construction phase. Any exposed areas could potentially contribute a higher sediment load to receiving waters.

Measures will be implemented to minimise impacts to waterways and these will include:

- the design and placement of infrastructure
- minimising the clearing extent and degree of embankment disturbance during earthworks
- special design requirements for tower structures that may potentially be subject to flooding.

Key protected areas include:

- national parks
- nature refuges
- wetlands
- state forests.

### 5.1.3 Air

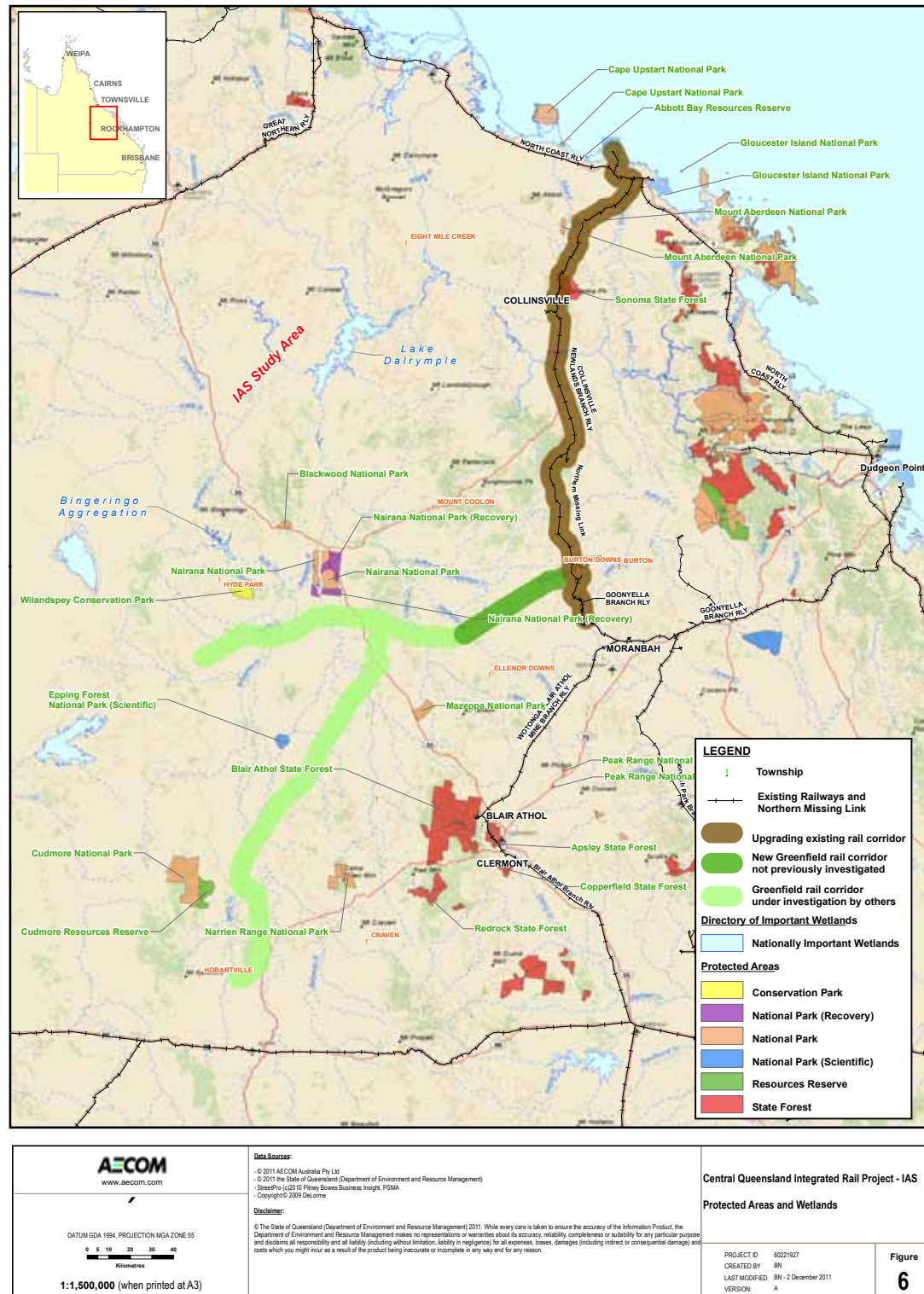
The region enjoys tropical weather, with temperatures ranging from 20 to 40° Celsius and may receive heavy rains in the summer months (November through to April). It has a semi-arid to arid climate with hot summers and dry, warm winters.

Air quality in the Study Area is influenced by particulate matter associated with agricultural activities and mining and, to a lesser degree, by associated transport activities.

Primary greenhouse gas sources in the region are from coal mining, coal seam gas production, and cattle.

# 5.0 Description of the Existing Environment

FIGURE 6 PROTECTED AREAS AND WETLANDS



## 5.0 Description of the Existing Environment

### 5.1.4 Flora and Fauna

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool was used to identify Matters of National Environmental Significance (MNES) and other matters protected by the EPBC Act within the Study Area.

An EPBC Act Protected Matters Report was generated for the Study Area and is provided as **Appendix A** to this report. The Protected Matters Report identifies:

- Matters of National Environmental Significance within the Study Area
- other matters protected by the EPBC Act within the Study Area
- other matters of Commonwealth and State significance within the Study Area.

Matters under each of these classifications that have been identified within the Study Area are summarised in **Table 2**, **Table 3**, **Table 4** and **Table 5**

**TABLE 2** MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE FOR THE CORRIDOR OPTIONS  
(EPBC ACT PROTECTED MATTERS SEARCH TOOL)

| MATTER OF NES  | NUMBER/RELEVANCE | DETAILS         |
|--|------------------|-----------------|
| Wetlands of International Significance (Ramsar Wetlands) | Nil              |                 |
| Great Barrier Reef Marine Park                           | Relevant         | Zone GU-16-6004 |
| Commonwealth Marine Areas                                | Nil              |                 |
| Threatened Ecological Communities                        | 4                |                 |
| Threatened Species                                       | 39               |                 |
| Migratory Species  | 33               |                 |

## 5.0 Description of the Existing Environment

**TABLE 3** OTHER MATTERS PROTECTED BY THE EPBC ACT (EPBC ACT PROTECTED MATTERS SEARCH TOOL)

| OTHER PROTECTED MATTERS      | NUMBER |
|------------------------------|--------|
| Commonwealth Lands           | Nil    |
| Commonwealth Heritage Places | Nil    |
| Critical Habitats            | Nil    |
| Commonwealth Reserves        | Nil    |

**TABLE 4** OTHER MATTERS OF COMMONWEALTH AND STATE SIGNIFICANCE FOR THE CORRIDOR OPTIONS (EPBC ACT PROTECTED MATTERS SEARCH TOOL)

| OTHER MATTERS OF SIGNIFICANCE                      | NUMBER |
|--|--------|
| Place on the Register of the National Estate (RNE) | 2      |
| State and Territory Reserves                       | 6      |
| Regional Forest Agreements                         | Nil    |
| Invasive Species                                   | 15     |
| Nationally Important Wetlands                      | 2      |

Database searches have identified a number of rare and threatened flora and fauna species, as listed by the *Nature Conservation (Wildlife) Regulation 2006*, established under the *Nature Conservation Act 1992*, and the EPBC Act, potentially occurring in the region. There are also a number of mapped Regional Ecosystems (REs) listed under the *Vegetation Management Act 1999* that are intersected by the proposed corridor. Corridor selection has sought to minimise impacts on protected flora and fauna and this will be further enhanced through more detailed assessments of flora and fauna along with refinement of the corridors.

A number of species listed as migratory were also identified from the EPBC Protected Matters Search. The potential abundance of these species in the Study Area is summarised in **Table 5**.



## 5.0 Description of the Existing Environment

TABLE 5 MIGRATORY SPECIES POTENTIALLY OCCURRING FOR THE CORRIDOR OPTIONS

| EPBC ACT LISTED MIGRATORY SPECIES       | NUMBER OF SPECIES |
|---|-------------------|
| Listed as migratory marine birds        | 4                 |
| Listed as migratory marine species      | 16                |
| Listed as migratory terrestrial species | 7                 |
| Listed as migratory wetland species     | 6                 |
| TOTAL                                   | 33                |

### Threatened Ecological Communities

Database searches have identified a number of threatened Regional Ecosystems (REs) and vegetation communities that exist within the Study Area, as listed under the *Vegetation Management Act 1999* (VM Act), the DERM Biodiversity Status and the EPBC Act.

Table 6 summarises the Threatened Ecological Communities within the region.

TABLE 6 THREATENED ECOLOGICAL COMMUNITIES WITHIN THE REGION

| THREATENED ECOLOGICAL COMMUNITY   | STATUS     | TYPE OF PRESENCE                      |
|---|------------|---------------------------------------|
| Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant)                              | Endangered | Community known to occur within area  |
| Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin       | Endangered | Community likely to occur within area |
| Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions | Endangered | Community likely to occur within area |
| Weeping Myall Woodlands   | Endangered | Community likely to occur within area |

## 5.0 Description of the Existing Environment

### 5.2 Social and Economic Environment

#### 5.2.1 Basic Community Profile

The Study Area sits within the Herbert and Lower Burdekin Region, the Central Coast-Whitsundays Region, the Central West Region, and the Central Highlands Coalfield Region. Within these regions, the Study Area covers land governed by Whitsunday Regional Council, Isaac Regional Council and Barcaldine Regional Council. The population numbers for each of these councils is presented in **Table 7**.

The Study Area covers land that stretches from near the township of Alpha in Barcaldine Regional Council north-east to the town of Bowen on the coast of the Whitsunday Regional Council area. The Study Area encompasses the town of Moranbah to the east, and Lake Dalrymple in the north-west.

**TABLE 7** REGIONAL AND SHIRE COUNCIL POPULATION STATISTICS

| REGIONAL OR SHIRE COUNCIL   | ESTIMATED RESIDENT POPULATION <sup>1</sup> | MEDIAN AGE STRUCTURE <sup>2</sup> | AVERAGE HOUSEHOLD SIZE <sup>3</sup> |
|-----------------------------|--|-----------------------------------|-------------------------------------|
| Whitsunday Regional Council | 34,765                                     | 37.5                              | 2.4                                 |
| Isaac Regional Council      | 22,629                                     | 31.3                              | 2.7                                 |
| Barcaldine Regional Council | 3,406                                      | 37                                | 2.4                                 |

Source: The State of Queensland 2010, Queensland Government

<sup>1</sup> as at 30 June 2010

<sup>2</sup> as at 2006

<sup>3</sup> 2006. Queensland average household size is 2.6.

The main urban centres proximate to the Study Area are Bowen, Collinsville, Moranbah, Clermont and Alpha. These centres hold the majority of the population of the Study Area, which can be estimated to be approximately 19,100 (to the nearest 100). Population statistics for these centres are found in **Table 8**.

**TABLE 8** POPULATION STATISTICS FOR THE POPULATION CENTRES WITHIN THE REGION

| CITY/TOWN    | SHIRE    | REGION              | INDIGENOUS POPULATION | FEMALE POPULATION | MALE POPULATION | TOTAL POPULATION |
|--------------|----------|---------------------|-----------------------|-------------------|-----------------|------------------|
| Bowen        | Bowen    | Whitsunday Regional | 516                   | 4161              | 4389            | 8550             |
| Collinsville | Bowen    | Whitsunday Regional | 60                    | 981               | 1032            | 2013             |
| Moranbah     | Belyando | Isaac Regional      | 120                   | 2713              | 3420            | 6199             |
| Clermont     | Belyando | Isaac Regional      | 44                    | 1001              | 1041            | 2042             |
| Alpha        | Jericho  | Barcaldine Regional | 25                    | 186               | 181             | 367              |

Source: The State of Queensland 2010, Queensland Government

## 5.0 Description of the Existing Environment

### 5.2.2 Accommodation and Housing

Within proximity to the Study Area, accommodation and housing is mainly localised to five urban centres (Bowen, Collinsville, Moranbah, Clermont and Alpha). As Moranbah and Clermont are large mining towns, it is likely that there is a population of workers on short-term or fly-in-fly-out contracts. However, QR National's preference is to engage local workforces in line with its HR strategy.

The majority of the Study Area is within the Whitsunday Regional and Isaac Regional Council areas. The Isaac region is made up of a diverse mix of coastal, agricultural and mining communities. Isaac Regional Council is currently working towards the development of a housing strategy to help their community be appropriately housed in the future. The Whitsundays Regional Council intends to prepare a strategic plan and program for financing and development of existing and new community infrastructure (including an affordable housing strategy) in collaboration with other relevant stakeholders.

Most houses within the urban centres are composed of families that live in separate dwellings.

### 5.2.3 Social and Recreational Services

Within the more remote parts of the Study Area, there are national parks, rivers and lakes that provide recreational services for camping and fishing activities.

Key amenities in Bowen include a cinema, the Summergarden Twin Theatre, the Denison Hotel, the Queens Beach Hotel, the Central Hotel, the North Australian Hotel, the Commercial Hotel and the Grand View Hotel. It has four motels and seven caravan parks. There is also a golf course that overlooks Queens Beach.

Conway National Park is immediately north east of Collinsville. Collinsville has a golf course, rugby league oval and a caravan park.

Moranbah offers a diverse range of sports and entertainment facilities including a skate park, library, public swimming pool, rugby league, AFL, hockey, tennis, off road racing, motocross and a BMX club. It also has a rodeo ground, Pony Club, Coal Country Caravan Park, Moranbah Golf Club, Moranbah Community Gymnastics club, and Moranbah Netball Association.

Clermont has the Peak Range National Park, Rose Harris Park and Theresa Creek Dam. It has tourist sites such as the Clermont Museum and Blair Athol Coal Mine.

Alpha has the Rowley Roberts Tourist Information Centre which provides visitor information for Alpha and the surrounding area. There is the Jane Neville-Rolfe Art Gallery and the Alpha Murals which are located throughout the streets of Alpha. Alpha has a 25m swimming pool open during the summer, a golf course and tennis courts. The local Rodeo Club holds an annual campdraft each March while the Senior Rugby League Football Club hosts a Bullmania each February.

### 5.2.4 Basic Economic Profile

#### 5.2.4.1 Regional economy

Regional industries are diverse and include tourism, mining, horticulture, agriculture, grazing, and fishing.

Regional data and data from urban centres (**Table 3**) show that the largest number of people are employed in technical or trade roles. The Mackay-Whitsunday-Isaac region's Gross Regional Product at Factor Cost (GRP) was \$15.4 billion in 2007-08, an increase of \$500 million since 2006-07. The region contributes a significant 7.1 % (\$216.2 billion) to Queensland's Gross State Product.

Tourism within the Whitsunday Region is a contributing factor to the region's economy. The Isaac region contributed 50 % to the Mackay/Whitsunday region's total GRP. The mining industry is a significant driver of the Isaac regional economy, accounting for 76.1 % of total GRP in 2007/08. Construction

## 5.0 Description of the Existing Environment

was the second largest contributor with 2.7 % of the region's GRP. The agriculture, forestry and fishing industry contribute 1.6 % of the region's total.

There is currently \$45.7 billion invested in major developments in the Mackay-Whitsunday-Isaac region in various stages of completion (under study, committed, under construction or recently completed) however a large number of these projects are in the Mackay area, outside of the Study Area.

### 5.2.4.2 Local economy

The population of Bowen is supported by a large variety of industries, however, the populations within the other urban centres in the Study Area are supported largely by the mining industry.

The median household income for Australia is \$1,027 per week and the averages for Moranbah and Clermont exceed this amount whilst the averages for Bowen, Collinsville and Alpha are significantly below this.

Bowen's economy is based on agriculture, fishing, tourism, and mining. A wide variety of small crops are grown and much of the Bowen Shire is used for beef cattle. Just north of Bowen is the Abbot Point Coal Terminal. Coal mined inland of Bowen in Collinsville and other towns in the Bowen Basin is brought by rail to a deepwater pier to be loaded on bulk carriers. Coal is currently exported mainly to China, India, Japan and South Korea.

Moranbah services the Peak Downs Mine, Goonyella Riverside Mine, Broadmeadow Mine, Moranbah North Mine and several other smaller mines in the region.

Clermont also hosts Clermont Mine and another larger coal mine; Blair Athol Mine, located 20 km north-west of Clermont.

Alpha remains a service centre for the surrounding pastoral properties and highway users.

### 5.2.5 Cultural Heritage (Indigenous and non-indigenous)

Cultural heritage, both Indigenous and non-indigenous, includes a complex mixture of places and values. Some places may be of interest for archaeological, historical, and/or anthropological reasons, and valued at a local, national and international level by the wider community. Other places may only be known and valued by one group or by only a particular section of a group within the Indigenous or non-indigenous population.

#### 5.2.5.1 Indigenous heritage

Traditionally, the sense of belonging, identity and the cultural and social structure of Aboriginal people are intimately linked to 'country', with particular areas of land or the sea often having special significance. For Aboriginal people, the landscape is covered with interconnected places and objects of significance which are part of their cultural heritage (Windle and Rolfe, 2003). Important Aboriginal cultural heritage places are often not marked on geographical maps and are usually only known to local communities. Therefore, the existing cultural heritage environment and constraints cannot be fully understood before some form of consultation with the identified Aboriginal party(s) for an area has taken place. Indigenous groups within the Study Area will be determined in consultation with DERM during the EIS phase.

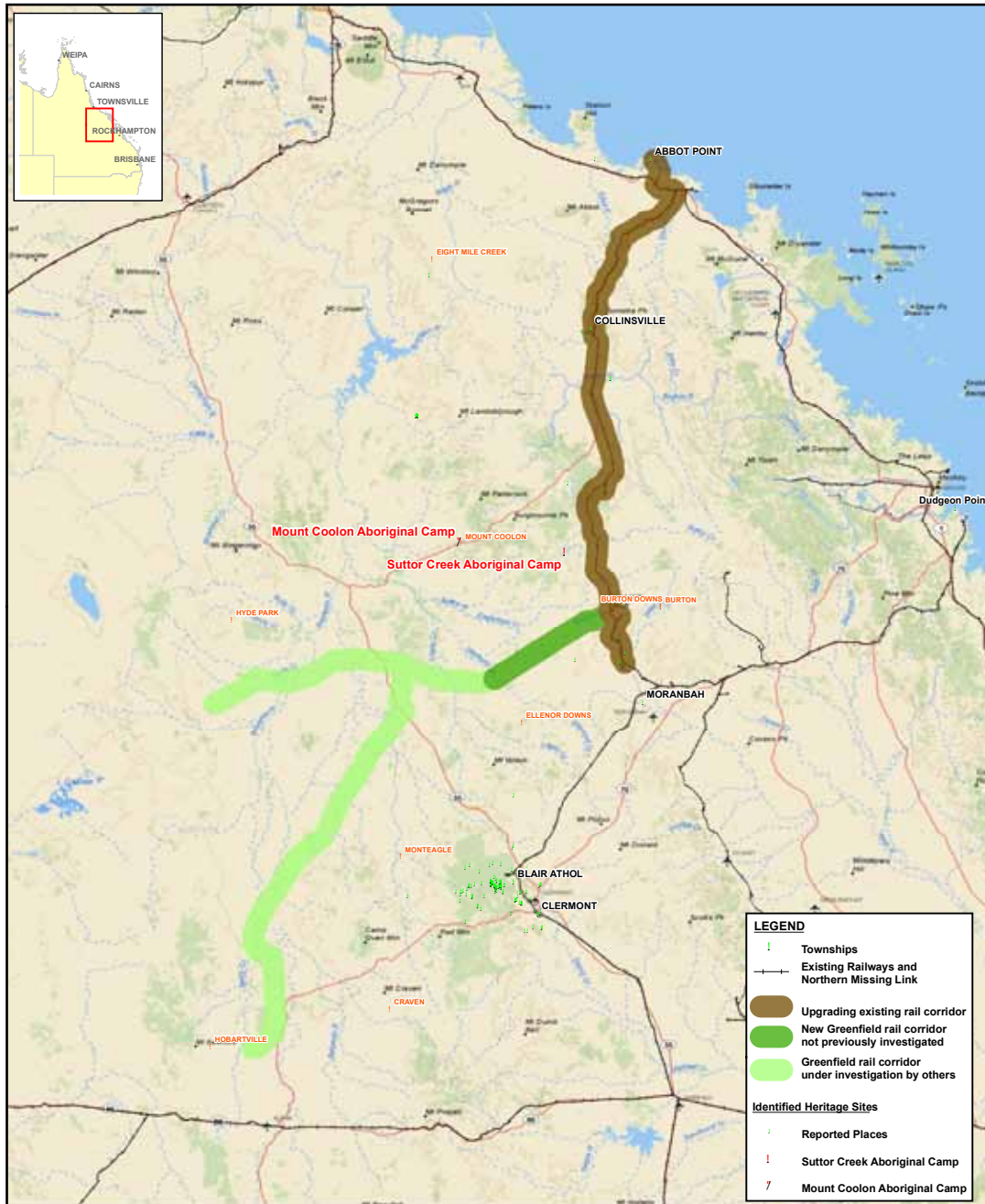
#### 5.2.5.2 Non-indigenous heritage

Numerous heritage sites have been identified within the Study Area. European cultural heritage database and existing information searches, along with appropriate field surveys, over the Study Area will be conducted during the EIS.

**Figure 7** shows the location of all identified registered non-indigenous cultural heritage sites.

# 5.0 Description of the Existing Environment

FIGURE 7 IDENTIFIED CULTURAL HERITAGE SITES



|   |  |   |
|---|--|---|
| <p><b>AECOM</b><br/>www.aecom.com</p> <p>DATUM GDA 1984, PROJECTION MGA ZONE 55</p> <p>0 5 10 20 30 40<br/>Kilometres</p> <p>1:1,500,000 (when printed at A3)</p> | <p><b>Data Sources:</b></p> <ul style="list-style-type: none"> <li>© 2011 AECOM Australia Pty Ltd</li> <li>© 2011 the State of Queensland (Department of Environment and Resource Management)</li> <li>StreetPro (c)2010 Pitney Bowes Business Insight, PSMA</li> <li>Copyright © 2009 DeLorme</li> </ul> <p><b>Disclaimer:</b></p> <p>© The State of Queensland (Department of Environment and Resource Management) 2011. While every care is taken to ensure the accuracy of the information Product, the Department of Environment and Resource Management makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.</p> | <p>Central Queensland Integrated Rail Project – IAS</p> <p>Identified Cultural Heritage Sites</p> <p>PROJECT ID 6021927<br/>CREATED BY BN<br/>LAST MODIFIED BN - 2 December 2011<br/>VERSION A</p> <p>Figure<br/><b>7</b></p> |
|---|--|---|

## 5.0 Description of the Existing Environment

### 5.3 Built Environment

#### 5.3.1 Infrastructure

Much of the Study Area is undeveloped and therefore there is little existing infrastructure over most of the area. Existing infrastructure includes a number of primary roads, the most significant of which are Peak Downs Highway, Gregory Developmental Road, Bowen Developmental Road and the Clermont-Alpha Road, airports at larger townships, and several rail lines which service mines. **Figure 1** shows key existing infrastructure in the region.

Urban development and associated infrastructure increases proximate to Bowen, Collinsville, Clermont and Moranbah. Further studies will be required to identify additional major developments proposed and their potential impact upon the project.

There are numerous mining and exploration leases in the region. These pose opportunities for the project, in terms of future tonnages, as well as potential constraints, in terms of corridor access.

#### 5.3.2 Traffic and Transport

The urban centres are well connected to state-controlled roads and train lines. Households within the urban centres tend to own one to two vehicles. Domestic airports are found within Bowen, Moranbah, Collinsville and Alpha. The closest international airports outside of the Study Area are Cairns and Brisbane.

##### 5.3.2.1 State-Controlled Roads

The Gregory Developmental Road (A7) runs from Rolleston, south of Emerald in a north-north-west direction to the town of Charters Towers.

The Peak Downs Highway (70) begins just north of Clermont on the A7, and runs north-east to Mackay on the coast. It is the main access to Moranbah.

The Clermont-Alpha Road runs from Alpha to Clermont in a north-east direction. Alpha is located on the Capricorn Highway which runs in an east-west direction.

The Bowen Developmental Road (77) runs from an intersection with the Gregory Developmental Road in a north-east direction to Bowen on the coast. It passes through Mount Coolon where it intersects the Suttor Developmental Road, and north through Collinsville.

The Bruce Highway (A1) runs in a north-west direction 5 km from the coast. It passes through the northern section of the Study Area and runs through Bowen.

The Collinsville-Elphinstone Road joins with the Bowen Developmental Road at Newlands (approximately 40 km south of Collinsville) to the Suttor Developmental Road at Elphinstone.

The southern part of the Kilcummin-Diamond Downs Road is state-controlled.

##### 5.3.2.2 Public train lines and stations

The Spirit of the Outback runs from Brisbane to Longreach passing through Alpha and has a motorail service twice a week. The Sunlander and Cairns Tilt Train travel up the east coast and pass through Bowen. There is a motorail schedule of three services per fortnight between Brisbane and Cairns in each direction.



## 5.0 Description of the Existing Environment

### 5.3.3 Community Amenities

The urban centres within the Study Area are well serviced with community amenities (**Table 9**). Farm houses, road houses and other remote housing are located within the Study Area but outside of the urban centres are unlikely to have a water supply and telecommunications. Remote housing would rely heavily on the services provided within the urban centres.

**TABLE 9** COMMUNITY AMENITIES WITHIN URBAN CENTRES FOR THE REGION

| COMMUNITY AMENITIES & FACILITIES            | BOWEN | COLLINSVILLE | MORANBAH | CLERMONT | ALPHA |
|---|-------|--------------|----------|----------|-------|
| Hospital                                    | Yes   | Yes          | Yes      | Yes      | Yes   |
| High School                                 | Yes   | Yes          | Yes      | Yes      | Yes   |
| Primary School                              | Yes   | Yes          | Yes      | Yes      | Yes   |
| Pre-school                                  | Yes   | Yes          | Yes      | Yes      | Yes   |
| Water supply                                | Yes   | Yes          | Yes      | Yes      | Yes   |
| Council office                              | Yes   | Yes          | Yes      | Yes      | No    |
| Police Service                              | Yes   | Yes          | Yes      | Yes      | Yes   |
| Health/Medical Centre                       | Yes   | Yes          | Yes      | Yes      | Yes   |
| Telecommunications (land line and internet) | Yes   | Yes          | Yes      | Yes      | Yes   |
| Church/Prayer facilities                    | Yes   | Yes          | Yes      | Yes      | Yes   |
| Supermarket/Grocery Store                   | Yes   | Yes          | Yes      | Yes      | Yes   |

## 5.4 Land Use and Tenures

### 5.4.1 Land Use

The Study Area is dominated by rural land use, primarily agricultural and horticultural industries. Much of the Study Area is extensively grazed by cattle. Modification to the natural landscape attributable to grazing is evident in the form of vegetation clearing, introduction of exotic pasture grasses and consequent displacement of native grasses and herbs, reduced ground cover, soil erosion, soil compaction and erosion of creek banks. Additional land uses within the catchment include agriculture, mining, forestry and conservation. Water and gas infrastructure is also evident within the Study Area.

Small mining townships are located in the Study Area, consisting of residential, commercial and rural land uses. Key townships include Alpha, Clermont, Collinsville, Moranbah, and Bowen. The level of human development outside of township areas is limited to sparsely distributed rural homesteads.

Existing land uses along the corridor are likely to include:

- mining
- national park and nature reserves
- state forests
- grazing.

## 5.0 Description of the Existing Environment

Once constructed, the railway could impact some future land uses, and detailed considerations will be undertaken during the environmental assessment process to determine whether proposed land uses would be compatible.

### 5.4.2 Key Local and Regional Land Tenures

The Study Area covers a range of property tenures (**Figure 3**), which can be broadly grouped as follows:

- private (freehold) property
- State (Crown) land (including national parks, state forests and reserves)
- pastoral leases
- mining leases
- native title
- easements, covenants and rights of way.

A detailed analysis of the various property tenures along the corridor will be presented in the environmental assessment.

### 5.4.3 Native Title

The Study Area contains areas that are under registered claims as well as areas where there is not current Native Title claim. An initial assessment of Native Title of the Study Area has revealed several Native Title claims that may be relevant to the project. Native Title Parties will be consulted during the development of the project. The claimant parties may include those listed in **Table 10**.

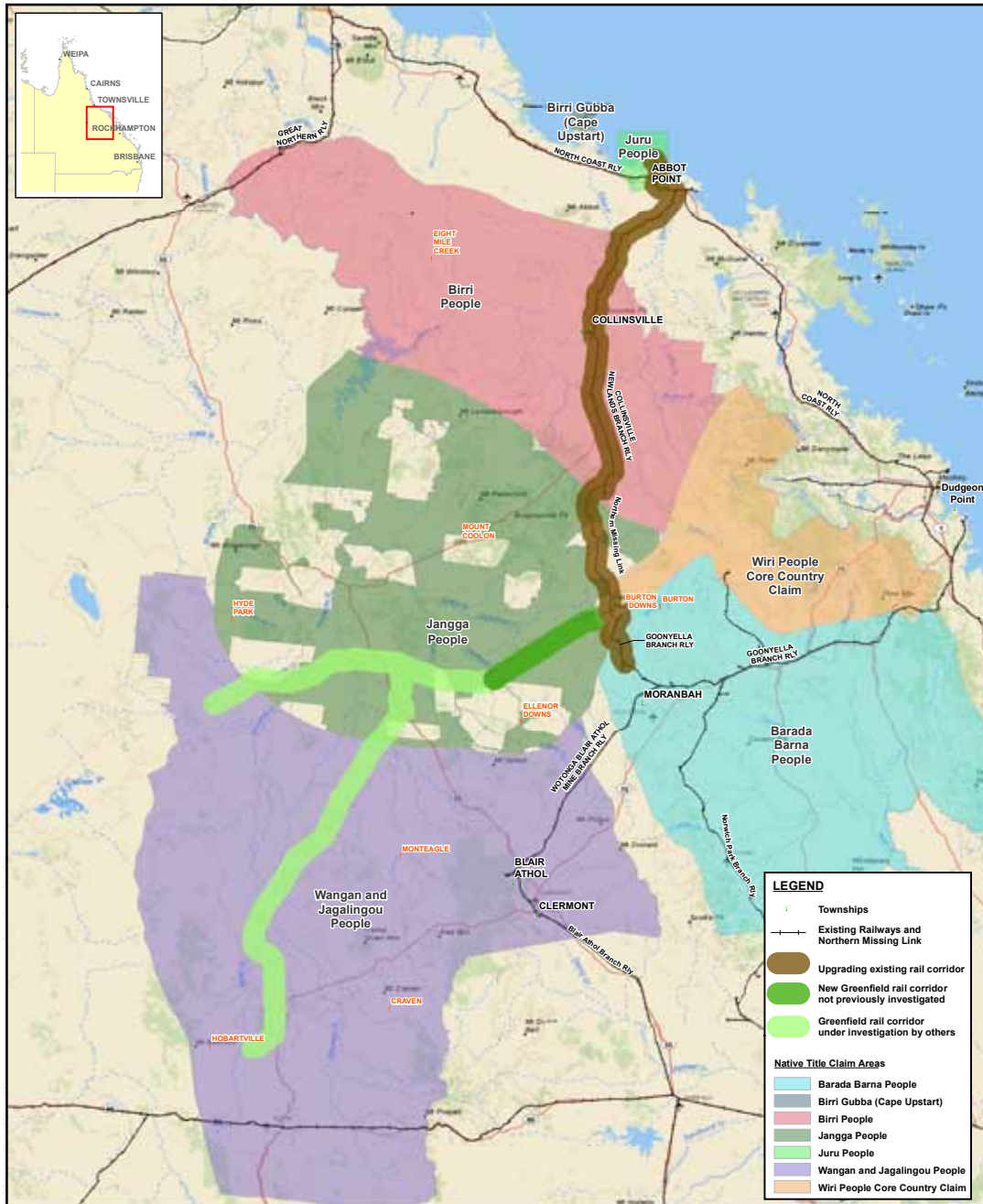
**Figure 8** shows the Native Title claim areas. Further Native Title searches would be conducted during the EIS phase to update any future changes.



TABLE 10 NATIVE TITLE CLAIMANTS

| FCNO       | TRIB NO | NAME                           | DATE LODGED | STATUS | RT STATUS                 |
|------------|---------|--------------------------------|-------------|--------|---------------------------|
| QUD6230/98 | QC98/10 | Jangga People                  | 2/04/1998   | Active | Accepted for registration |
| QUD6244/98 | QC98/12 | Birri People                   | 2/04/1998   | Active | Accepted for registration |
| QUD85/04   | QC04/6  | Wangan and Jagalingou People   | 27/05/2004  | Active | Accepted for registration |
| QUD372/06  | QC06/14 | Wiri People Core Country Claim | 29/09/2006  | Active | Accepted for registration |
| QUD380/08  | QC08/11 | Barada Barna People            | 12/11/2008  | Active | Accepted for registration |
| QUD554/10  | QC10/5  | Juru People                    | 15/12/2010  | Active | Accepted for registration |

# 5.0 Description of the Existing Environment

FIGURE 8 NATIVE TITLE CLAIM AREAS



|   |  |  |
|---|--|--|
| <div><br/>www.aecom.com</div> <div></div> <div>DATUM GDA 1994, PROJECTION MGA ZONE 55</div> <div><div><div>0</div><div>5</div><div>10</div><div>20</div><div>30</div><div>40</div></div><div>Kilometres</div></div> <div>1:1,500,000 (when printed at A3)</div> | <div><div>Data Sources:</div><div><div>© 2011 AECOM Australia Pty Ltd</div><div>© Commonwealth of Australia (Geoscience Australia) 2011</div><div>© 2011 and National Native Title Tribunal</div><div>StreetPro (c)2010 Pitney Bowes Business Insight, PSMA</div><div>Copyright © 2000 DeLorme</div><div>© 2011 the State of Queensland (Department of Environment and Resource Management)</div></div></div> <div><div>Disclaimer:</div><div><div>The Commonwealth gives no warranty regarding the accuracy, completeness, currency or suitability for any particular purposes.</div><div>The Registrar, the National Native Title Tribunal and its staff, members and agents and the Commonwealth (collectively the Commonwealth), accept no liability and give no undertakings, guarantees or warranties concerning the accuracy, completeness or fitness for purpose of the information provided. In return for you receiving this information you agree to release and indemnify the Commonwealth and third party data suppliers in respect of all claims, expenses, losses, damages and costs arising directly or indirectly from your use of the information and the use of the information obtained by any third party.</div><div>The State of Queensland (Department of Environment and Resource Management) 2011. While every care is taken to ensure the accuracy of the Information Product, the Department of Environment and Resource Management makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.</div></div></div> | <div>Central Queensland Integrated Rail Project – IAS</div> <div>Native Title Claim Areas</div> <div><div><div>PROJECT ID</div><div>CREATED BY</div><div>LAST MODIFIED</div><div>VERSION:</div></div><div><div>60021927</div><div>BN</div><div>BN - 2 December 2011</div><div>A</div></div></div> <div><div>Figure</div><div>8</div></div> |
|---|--|--|

## 6.0 Potential Impacts of the Project

### 6.1 Natural Environment

#### 6.1.1 Land

The rail corridors will cross a large number of geological formations. Detailed geological assessments and engineering will be conducted throughout the planning and EIS to ensure rail design and construction is undertaken in accordance with geological conditions.

The construction of the project has the potential to impact on topographical and landform features within the project corridor predominantly through changes to the visual landscape as a result of cut and fill activities and the construction of engineered landforms such as embankments.

The construction and operation of the project has the potential to impact on the geotechnical stability within the project corridor as a result of cut and fill activities within the project corridor during construction and the long-term stability of the landforms during operation of the railway. Appropriate detailed geotechnical investigations will be required for the extent of the project corridor in order to adequately assess the geotechnical stability of the preferred alignment option for construction and operation of the railway.

During construction and operation, there is potential for significant impact to soils resulting from disturbance and exposure of subsurface soils vulnerable to accelerated erosion, dispersivity and/or salinity due to their physical and chemical characteristics. Soils of particular concern for management and stability will be reactive cracking clay soils; dispersive, erosion prone soils; and saline soils within the proposed disturbance footprint, especially on steep slopes and/or exposed through deep cutting activities during earthworks and exposed surfaces within incised gully features.

#### 6.1.2 Water

The construction and operation of the project has the potential to impact on the existing water quality if not appropriately managed. Direct and indirect impacts may also occur to waterways. Potential pollutants may include hazardous and chemical substances (for example, hydrocarbons from oil spills, solvents, cement slurry, wash waters and coolants) and rubbish may be generated, particularly during the construction phase if an effective waste management strategy is not adopted.

Potential sources of surface water contamination will be managed appropriately during construction and operation. Potential deleterious impact upon water quality may arise from:

- sediment from disturbed soils entering waterways, including the disturbance of in-stream sediments
- pesticides from adjoining rural lands
- hydrocarbon and other chemical leaks and small scale spills from storage areas and vehicles
- discharges from temporary sewerage and site facilities
- storage and disposal of waste materials.

The project corridor will intercept a number of major and minor creeks and drainage lines. Different sizes and numbers of culverts (Corrugated Steel Pipe (CSP) and Precast Concrete Box Culverts (PCBC)) are likely to be used to accommodate the majority of the drainage lines along the project alignment. For select few major drainage lines, bridges may be constructed.

Groundwater investigations will be undertaken as part of the EIS process of the preferred corridor to assess existing water resources and the potential impact that the rail infrastructure could have on these resources.

## 6.0 Potential Impacts of the Project

### 6.1.3 Ecology

The greatest potential impact to areas of ecological sensitivity will result from the required vegetation clearing for final alignment and associated access roads. Maintenance to the rail line may also require appropriate trimming and removal of vegetation to allow for its safe operation. The preferred corridor will be selected to minimise impacts to large sensitive ecological areas and field investigations will be required to ensure that the rail line minimises impacts to areas of high habitat and vegetation values.

## 6.2 Amenity

### 6.2.1 Air

The construction of the rail line could result in localised elevated levels of particulates in the general vicinity of the project in the short-term. During construction, the main air quality impacts are likely to be associated with dust generated during earthworks and movement of vehicles over exposed surfaces. Dust generation will be most significant during dry and windy conditions, which occur mainly during winter months. Exhaust emissions from vehicles and plant quickly dissipate, and there is likely to be a negligible impact on the local airsheds.

During operation of the railway, exhaust emissions from locomotives will be generated. Coal dust from uncovered coal wagons may also be generated and may be of concern to nearby residents. Potential impacts associated with any townships and other sensitive receivers will be investigated in the EIS.

Given that the project would aim to have large distances to homesteads and other sensitive receptors, it is expected that dust or exhaust emissions generation will not have a significant impact, however, this will be investigated in more detail in the EIS. The EMP (Construction) will contain measures to minimise the generation of dust during construction activities.

The EIS will detail any potential air quality impacts and propose mitigation measures for any impacts that cannot be minimised.

### 6.2.2 Noise

During construction, noise will be generated by construction vehicles and equipment along the corridor, at borrow pits and other sources of fill and ballast, and at campsites.

During operation, noise will be generated by locomotives and the movement of trains through wheel/track interactions, shunting and loading operations. Noise generated from maintenance operations is likely to be minimal, as these activities will occur relatively infrequently. These will be assessed during the EIS phase and mitigation measures will be identified.

### 6.2.3 Visual

The proposed railway will cause a visual change to the landscape; however, the proposed rail link is likely to be spatially removed from townships and major roads. It is unlikely that the development would have significant impact on the visual amenity of the area relative to the human population.

Further visual assessment investigations will need to be undertaken during the planning phase of the project.

### 6.2.4 Access

Stock routes may be affected and access issues between and within large farming properties may occur. Care will be taken while designing the rail corridors to keep impacts to a minimum on the existing stock routes, and other infrastructure.

## 6.0 Potential Impacts of the Project

### 6.3 Social Environment

#### 6.3.1 Housing and Community Infrastructure

The corridor selection process will aim to determine routes that minimise impacts on population centres. Detailed investigations will be carried out as part of the route refinement process so that potential impacts to settlements and station residences are identified and minimised as much as possible.

The construction of the proposed project is likely to require the workforce to be spread along the alignment for a limited duration and this arrangement is not expected to apply significant accommodation pressures to the existing settlements and population centres. Similarly, in terms of accommodation needs, the operation of the proposed project would not significantly impact on population centres along the alignment.

The project is not expected to place undue pressure on any community facilities, such as hospitals, airports etc. Materials being transported via the existing road network will be undertaken with regard to maximum allowable weights to minimise any potential damage to roads.

#### 6.3.2 Cultural Heritage

Australian heritage laws exist at the national (Federal) level and at each state or territory level. Heritage laws and their associated regulations, registers, agreements, case laws and practices seek to protect, preserve, present and transmit the Australian nation's natural, cultural and historical heritage into the future.

Under Federal, State and local legislation, anyone proposing an activity that may harm Indigenous or non-indigenous cultural heritage or are planning a 'future act' in an area under a Native Title claim must address the legislative provisions under these laws at all levels of Australian government.

While parts of the Study Area have been subjected to significant ground surface disturbance (Category 4 under the Duty of Care), numerous creeks and waterways exist within the Study Area. Indigenous cultural heritage sites tend to cluster around waterways, particularly occupation sites such as shell middens and camp sites and resource acquisition sites such as fish traps and quarries. Therefore, there is a high likelihood that residual Indigenous cultural heritage sites will exist within the Study Area.

During the EIS phase, consultation with Traditional Owners will occur as part of an assessment to identify sites of Aboriginal cultural heritage and places of heritage significance within the preferred alignment corridor. Identified impacts and mitigation measures will be presented and discussed in the EIS.

Non-indigenous heritage is not anticipated to present a significant constraint to the project. Identified areas or items of significance will be factored into the route selection with the aim of avoidance if possible. Where this is not possible, then other appropriate management measures will be developed as part of the Heritage Management Plan.

### 6.4 Economic Effects

Queensland will benefit from the development of mine and associated rail infrastructure through long-term contributions of royalties to the State economy, employment and small business opportunities in the areas surrounding the project.

Construction of the project will provide the opportunity for direct local employment, upskilling of labour, and increased opportunities for local and regional businesses.

Operation and maintenance of the railway will require a full-time workforce, as well as support services.



## 6.0 Potential Impacts of the Project

### 6.5 Built Environment

#### 6.5.1 Transport

The rail corridor will cross and be in the vicinity of a number of publicly controlled roads. It is envisaged that the major roads will be used to transport heavy machinery, construction vehicles and construction material.

In general, major roads would be crossed with grade separated crossings, either road over rail or rail over road. The remainder of crossings may be at grade with signalling treatments to be determined during detailed design. Consultation with the Department of Transport and Main Roads will occur during the EIS phase to clarify requirements.

#### 6.5.2 Other Infrastructure

The ultimate alignment would be selected such that it minimises the impact on existing infrastructure or known future infrastructure. Once constructed, the project would not place significant demands on existing infrastructure and would facilitate the operation and expansion of existing ports.

### 6.6 MNES under the EPBC Act

A number of potential Matters of National Environmental Significance (MNES) have been identified to exist within the Study Area (refer Section 5.1.4). The potential impacts upon these matters will be minimised as part of the corridor and alignment selection process.

An assessment of the potential for the project to impact MNES will be completed as part of route selection, the detailed studies and the EIS. It is intended to make an EPBC referral to SEWPaC for a determination as to whether the project is a 'controlled action' or 'not a controlled action'.

## 7.0 Environmental Management and Mitigation Measures

### 7.1 Natural Environment

Minimising the potential impacts upon the natural environment will play a significant role in the selection of the final corridor.

At the completion of the construction activities for civil and track work, all temporary construction facilities and areas will be rehabilitated. These include, but are not limited to:

- temporary construction camps
- stockpiles
- borrow areas
- temporary access tracks and haul roads
- turkey nest dams.

The initial study corridor will be selected to minimise impacts to national parks, forest reserves, state forests or nature refuges.

During construction of the rail line, clearing of vegetation will be required for construction of access tracks, laydown areas and tower pads. The amount of clearing will be minimised as much as possible and required mitigation agreed with relevant government agencies. The clearing of vegetation around waterways and drainage lines will be minimised where possible to restrict the release of additional sediments into waterways during construction and maintenance.

During operation, vegetation within the easement will need to be managed to ensure that the rail line remains clear of vegetation and that bushfire risk is minimised.

The EIS will highlight potentially affected species as well as the investigations and commitments to prevent, minimise and mitigate impacts on areas of ecological sensitivity within the initial study corridor.

Detailed geotechnical investigations will be carried out as part of engineering and the EIS to adequately assess the suitability of the stratigraphy for construction and operation of a railway. Soil surveys will be undertaken to identify any reactive cracking clay soils; dispersive, erosion prone soils; and saline soils that will need to be managed during construction. A Sediment, Drainage and Erosion Control Plan will be developed to mitigate and control sediment movement onsite, and minimise the potential for sediment laden runoff during construction.

### 7.2 Built Environment

The primary mitigation measure to reduce impacts on community amenity will be to minimise impacts to population centres as much as possible. Visual impact will be minimised through route selection, building placement and design.

Carrying capacity of existing infrastructure will be assessed and, where necessary, upgraded to meet project requirements. Temporary construction camps will be designed to meet necessary development conditions.

## 7.0 Environmental Management and Mitigation Measures

### 7.3 Social Impact Management Plan

The proposed route alignment selection process will aim to minimise impacts to existing population centres, settlements and sensitive receptors along the corridor. This would reduce the potential for adverse interactions between the proposed project and the population at these locations.

Noise and vibration modelling will be undertaken during the EIS to determine impacts and appropriate mitigation measures, particularly for areas such as nearby townships and homesteads potentially impacted. During construction, noise impacts will be managed through the Environmental Management Plan (Construction). Design measures will be implemented to mitigate operational noise levels with the aim of complying with relevant operational noise criteria.

The project will create a range of job opportunities during construction. The workforce will be sourced locally where possible and training provided where appropriate. Operation of the rail line will create permanent maintenance jobs.

Construction camps will be sited and designed so as to minimise adverse impacts upon existing communities. Opportunities to provide positive impacts to nearby communities will be explored.

Once constructed, the rail line could impact some future land uses and detailed considerations will be undertaken during the environmental assessment process to determine whether proposed land uses will be compatible.

Community consultation will be conducted as part of the EIS and will seek to minimise impacts on visual amenity.

### 7.4 Cultural Heritage Management Plan (Indigenous)

Under Federal, State and local legislation anyone proposing an activity that may harm Indigenous or cultural heritage must address the legislative provisions under these laws at all levels of Australian government.

An assessment will be conducted to identify sites of Aboriginal cultural heritage and places of heritage significance within the preferred alignment corridor. Identified impacts and mitigation measures will be presented and discussed in the EIS.

The project's impacts on cultural heritage values will be managed under agreements with relevant Aboriginal parties (ACH Act) so that statutory obligations are met.

### 7.5 Non-indigenous Cultural Heritage Management

Non-indigenous heritage is not anticipated to present a significant constraint to the project. Identified areas or items of significance will be factored into the route selection. Appropriate management measures will be developed as part of the Heritage Management Plan.

### 7.6 Greenhouse Gas Management Plan

QR National is reducing greenhouse gases and improving energy efficiency in their operations to meet their obligations under the National Greenhouse and Energy Reporting and Energy Efficiency Opportunities Acts. This project would be subject to the same initiatives.

## 7.0 Environmental Management and Mitigation Measures

A project-specific Environmental Management Plan will be developed for the construction and operation stages of the project to appropriately manage and mitigate any impacts upon greenhouse issues and climate change.

### 7.7 Waste Management

It is anticipated that a minimal level of waste will be generated during construction. Consideration of the minimisation of waste, recycling of waste materials and the appropriate disposal of waste will be incorporated into the project EMP to ensure it is considered throughout the design, construction and operation phases.

### 7.8 Hazard and Risk, and Health and Safety

Hazard and risk associated with the implementation and operation of the project will be identified and assessed through the consideration of the risks of the project and comparison of these to acceptable risk criteria. The assessment will aim to demonstrate that the project will be effectively designed and managed so that the inherent hazards and risks will be appropriately controlled.

### 7.9 Environmental Management

The project will have an environmental management system consisting of a comprehensive suite of management plans developed as part of the project. These plans will include, but not be limited to:

- Environmental Management Plan
- Sediment and Erosion Control Plan
- Water Management Plan
- Noise and Vibration Management Plan
- Flora and Fauna Management Plan
- Safety Management Plan
- Cultural Heritage Management Plan
- Community and Stakeholder Management Plan
- Crisis Management Plan
- Risk Management Plan.



## 8.0 Approvals Required for the Project

### 8.1 Commonwealth Approvals

It is not known if an assessment of the proposed project will be required under the EPBC Act. It is proposed to refer the project to SEWPaC for a determination as to whether it is a 'controlled action' or 'not a controlled action'. If the latter is the case, then the proposed project would require the approval of the Commonwealth Minister.

If the project triggers assessment under Commonwealth legislation, it is anticipated that the project will be assessed under the bilateral agreement in place between the State of Queensland and the Commonwealth government using the accredited State process as set out in the Queensland SDPWO Act. This would involve the Coordinator-General preparing an Assessment Report for the consideration of the Commonwealth for a decision on approval of the 'controlled action' under the EPBC Act if the proposed project is a 'controlled action'.

Other Commonwealth legislation that could apply to the rail line includes:

- Aboriginal and Torres Strait Islander Act 2005
- Aboriginal and Torres Strait Islander Heritage Protection Act 1984
- Australian Heritage Council Act 2003
- Native Title Act 1993.

These and other potentially relevant statutes of legislation will be considered during the environmental assessment process (**Table 13**).

### 8.2 State Approvals

QR National intends to request the Queensland Government to declare the project a 'significant project' under Section 26(1)(a) of the SDPWO Act. Therefore, the environmental assessment would be undertaken by the Coordinator-General under that Act. The environmental assessment process set out in the SDPWO Act has been accredited under the EPBC Act. There are a number of possible instruments that can be used under the SDPWO Act. The appropriate instrument will be determined in consultation with government.

The project will also require various State approvals, in particular development approval under the *Sustainable Planning Act 2009* (SP Act). In addition, the project will require approval for various Environmentally Relevant Activities (ERAs) and other operational works under the SP Act. Relevant Queensland legislation that may be applicable to the proposed project is listed in **Table 13**. The applicability of this legislation will also be considered during the environmental assessment process.

### 8.3 Local Approvals

The project will require statutory development approvals under the relevant local council planning schemes and the *Sustainable Planning Act 2009*. Consultation with local government throughout the EIS process will establish the requirement and extent of these approvals.



## 8.0 Approvals Required for the Project

TABLE 11 LEGISLATION POTENTIALLY APPLICABLE TO PROJECT APPROVALS

| LEGISLATION   | ADMINISTERING AUTHORITY   | COMMENTS  |
|---|---|---|
| <b>Commonwealth legislation</b>   |   |   |
| <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> | Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) | This Act enables the Australian Government to respond to request to protect traditionally important areas and objects that are under threat, if it appears that state or territory laws have not provided effective protection. The government can make special orders, called declarations, to protect significant Aboriginal areas, objects and classes of objects from threats of injury or desecration. |
| <i>Australian Heritage Council Act 2003</i>                               | Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) | This Act establishes the Australian Heritage Council.   |
| <i>Aboriginal and Torres Strait Islander Act 2003</i>                     | Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) | This Act enables the Australian Government to maximise participation, promotes self management and self sufficiency and further the economic social and cultural development of Aboriginal persons and Torres Strait Islanders.   |
| <i>Environment Protection and Biodiversity Conservation Act 1999</i>      | Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) | Approval of the declared 'controlled action' and EIS (under bilateral agreement between the Commonwealth and Queensland Governments recognises the Queensland EIS process under the SDPWO Act as an appropriate process pursuant to Section 87 of the EPBC Act.).   |
| <i>Native Title Act 1993</i>  | Department of Families, Housing, Community Services and Indigenous Affairs            | This Act provides for the recognition and protection of native title.   |
| <b>State legislation</b>  |   |   |
| <i>Aboriginal Cultural Heritage Act 2003</i>                              | Department of Environment and Resource Management                                     | The main purpose of this Act is to provide effective recognition, protection and conservation of Aboriginal cultural heritage.  |
| <i>Acquisition of Land Act 1967</i>                                       | Department of Environment and Resource Management                                     | The State has the power to acquire land for public purposes in order to meet community expectations. This legislation provides for implementing and managing the acquisition (sometimes referred to as resumption) of freehold land for these purposes.   |
| <i>Electricity Act 1994</i>   | Department of Employment, Economic Development and Innovation                         | The matters governed by this Act include the regulation of the electricity industry and electricity use, including the licensing of electricity industry participants and monitoring of licence compliance.   |
| <i>Electrical Safety Act 2002</i>   | Department of Justice and Attorney-General  | This Act is directed at eliminating the human cost to individuals, families and the community of death, injury and destruction that can be caused by electricity.   |
| <i>Environmental Protection Act 1994</i>                                  | Department of Environment and Resource Management                                     | This Act provides for the protection of Queensland's environment and allows for the approval of a Project's environmental authority.  |
| <i>Fisheries Act 1994</i>   | Department of Employment, Economic Development and Innovation                         | The main purpose of the Act is to 'provide for the use, conservation and enhancement of the community's fisheries resources and fish habitats in a way that seeks to: <ul style="list-style-type: none"> <li>• apply and balance the principles of ecologically sustainable development;</li> <li>• promote ecologically sustainable development.</li> </ul>  |
| <i>Forestry Act 1959</i>  | Department of Environment and Resource Management                                     | This legislation provides for forest reservations; the management, silvicultural treatment and protection of State forests; and the sale and disposal of forest products and quarry material, which are the property of the Crown on State forests, timber reserves and on other lands; and for related purposes.   |

## 8.0 Approvals Required for the Project

| LEGISLATION   | ADMINISTERING AUTHORITY                           | COMMENTS   |
|---|---|--|
| <i>Land Act 1994</i>  | Department of Environment and Resource Management | This is an Act to consolidate and amend the law relating to the administration and management of non-freehold land and deeds of grant in trust, the creation of freehold land, and for related purposes.   |
| <i>Land Protection (Pest and Stock Route) Management Act 2002</i> | Department of Environment and Resource Management | The main purpose of this Act is to provide for management of pest species on land, and management of the stock route network.  |
| <i>Native Title (Queensland) Act 1993</i>                         | Department of Environment and Resource Management | The main objects of this Act are: <ul style="list-style-type: none"> <li>to validate past Acts, and intermediate period Acts, invalidated because of the existence of native title, and to confirm certain rights in accordance with the Commonwealth Native Title Act;</li> <li>to ensure that Queensland law is consistent with standards set by the Commonwealth Native Title Act for future dealings affecting native title.</li> </ul>  |
| <i>Nature Conservation Act 1992</i>                               | Department of Environment and Resource Management | The object of this Act is to conserve nature using an integrated and comprehensive conservation strategy for the whole of Queensland.  |
| <i>Queensland Heritage Act 1992</i>                               | Department of Environment and Resource Management | This Act provides for the conservation of Queensland's cultural heritage for the benefit of the community and future generations.  |
| <i>State Development and Public Works Operations Act 1971</i>     | Coordinator General                               | The SDPWO Act is intended to provide an EIS process for certain proposals declared a significant project under this legislation.   |
| <i>Sustainable Planning Act 2009</i>                              | Department of Local Government and Planning       | This Act seeks to achieve sustainable planning outcomes through: <ul style="list-style-type: none"> <li>managing the processes by which development takes place</li> <li>managing the effects of development on the environment; and</li> <li>coordinating local, regional and state planning.</li> </ul>  |
| <i>Transport Infrastructure Act 1994</i>                          | Department of Transport and Main Roads            | This Act provides for the integrated development and management of transport infrastructure.   |
| <i>Transport Planning and Coordination Act 1994</i>               | Department of Transport and Main Roads            | This act provides for the strategic planning and arrangement of transport resources.   |
| <i>Vegetation Management Act 1999</i>                             | Department of Environment and Resource Management | The purpose of this Act is to regulate the clearing of vegetation in a way that: <ul style="list-style-type: none"> <li>conserves remnant endangered, of concern, and not of concern regional ecosystems;</li> <li>conserves vegetation in declared areas;</li> <li>does not cause land degradation;</li> <li>prevents the loss of biodiversity, maintains ecological processes, and reduces greenhouse gas emissions; and</li> <li>manages the environmental effects of clearing to achieve the above.</li> </ul> |
| <i>Water Act 2000</i>   | Department of Environment and Resource Management | All rights to the use, flow and control of all water in Queensland are vested in the State. The purpose of this Act is to advance sustainable management and efficient use of water and other resources by establishing a system for water planning, allocation and use.   |
| <i>Queensland Heritage Act 1992</i>                               | Department of Environment and Resource Management | The purpose of this Act is to provide for the conservation of Queensland's cultural heritage for the benefit of the community and future generations.  |



## 9.0 Costs and Benefits Summary

### 9.1 Local, State and National Economies

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The project will have significant benefits to the local, state and national economies. Without an efficient rail network connecting the Galilee Basin, development of the coal resources will be severely restricted.

### 9.2 Natural and Social Environments

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By consolidating along existing rail corridors, QR National plans to minimise disruption to current land holdings, and as a result, reduce environmental impacts and community impacts.

The benefit of QR National's rail solution is that it will reduce the need for a totally new greenfield rail corridor in this region when compared to the rail corridors being proposed throughout the Galilee Basin.



## 10.0 Community and Stakeholder Consultation

Consultation to date has been conducted with key stakeholders such as miners, port operators and government. Broad community consultation has yet to be undertaken and will form part of the EIS process.





## 11.0 References and Data Sources

Department of Employment, Economic Development and Innovation (DEEDI): **Annual Coal Statistics, 2009-10)**

Department of Employment, Economic Development and Innovation (DEEDI): **Mining Exploration and Petroleum:** <http://mines.industry.qld.gov.au/mining/coal.htm> accessed 29/8/11

Department of Employment, Economic Development and Innovation (DEEDI): **Mining Exploration and Petroleum:** <http://mines.industry.qld.gov.au/mining/coal-inventory.htm> accessed 29/8/11

Department of Transport and Main Roads: **The Rail Network Strategy – Policy Guidelines for Queensland’s Rail Network** <http://www.tmr.qld.gov.au/Business-industry/Transport-sectors/Rail-services-and-infrastructure/Rail-Network-Strategy.aspx> accessed 29/8/11

Office of State Revenue Queensland, 2010

Windle, J. and Rolfe, J. 2003 **Valuing Aboriginal cultural heritage sites in Central Queensland**, Australian Archaeology, 56: 35-41





# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

Report created: 02/12/11 11:55:58

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Buffer: 5.0Km



## Summary

### Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>

|  |      |
|--|------|
| <a href="#">World Heritage Properties:</a>         | 1    |
| <a href="#">National Heritage Places:</a>          | 1    |
| <a href="#">Wetlands of International</a>          | None |
| <a href="#">Great Barrier Reef Marine Park:</a>    | 1    |
| <a href="#">Commonwealth Marine Areas:</a>         | None |
| <a href="#">Threatened Ecological Communities:</a> | 3    |
| <a href="#">Threatened Species:</a>                | 39   |
| <a href="#">Migratory Species:</a>                 | 33   |

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov>.

|   |      |
|---|------|
| <a href="#">Commonwealth Lands:</a>           | None |
| <a href="#">Commonwealth Heritage Places:</a> | None |
| <a href="#">Listed Marine Species:</a>        | 73   |
| <a href="#">Whales and Other Cetaceans:</a>   | 12   |
| <a href="#">Critical Habitats:</a>            | None |
| <a href="#">Commonwealth Reserves:</a>        | None |

## Extra Information

This part of the report provides information that may also be relevant to the area you have

|  |      |
|--|------|
| <a href="#">Place on the RNE:</a>              | 2    |
| <a href="#">State and Territory Reserves:</a>  | 6    |
| <a href="#">Regional Forest Agreements:</a>    | None |
| <a href="#">Invasive Species:</a>              | 15   |
| <a href="#">Nationally Important Wetlands:</a> | 2    |

## Details

### Matters of National Environmental Significance

|                                    |            |                   |  |
|------------------------------------|------------|-------------------|--|
| World Heritage Properties          |            |                   | <a href="#">[ Resource Information ]</a> |
| Name                               | State      | Status            |  |
| <a href="#">Great Barrier Reef</a> | QLD        | Declared property |  |
| National Heritage Properties       |            |                   | <a href="#">[ Resource Information ]</a> |
| Name                               | State      | Status            |  |
| Natural                            |            |                   |  |
| <a href="#">Great Barrier Reef</a> | QLD        | Listed place      |  |
| Great Barrier Reef Marine Park     |            |                   | <a href="#">[ Resource Information ]</a> |
| Type                               | Zone       | IUCN              |  |
| General Use                        | GU-16-6004 | VI                |  |
| Threatened Ecological Communities  |            |                   | <a href="#">[ Resource Information ]</a> |

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

| Name  | Status     | Type of Presence                      |
|---|------------|---------------------------------------|
| <a href="#">Brigalow (Acacia harpophylla dominant and co-dominant)</a>                                      | Endangered | Community known to occur within area  |
| <a href="#">Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin</a>       | Endangered | Community likely to occur within area |
| <a href="#">Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions</a> | Endangered | Community likely to occur within area |

| Threatened Species | [ Resource Information ] |  |
|--------------------|--------------------------|--|
|--------------------|--------------------------|--|

| Name | Status | Type of Presence |
|------|--------|------------------|
|------|--------|------------------|

#### BIRDS

|  |            |  |
|--|------------|--|
| <a href="#">Erythrorhynchus radiatus</a>   |            |  |
| Red Goshawk [942]  | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Fregetta grallaria grallaria</a>   |            |  |
| White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438] | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Geophaps scripta scripta</a>   |            |  |
| Squatter Pigeon (southern) [64440]   | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Neochmia ruficauda ruficauda</a>   |            |  |
| Star Finch (eastern), Star Finch (southern) [26027]  | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Poephila cincta cincta</a>   |            |  |
| Black-throated Finch (southern) [64447]  | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Rostratula australis</a>   |            |  |
| Australian Painted Snipe [77037]   | Vulnerable | Species or species habitat may occur within area       |

#### MAMMALS

|  |            |  |
|--|------------|--|
| <a href="#">Balaenoptera musculus</a>                        |            |  |
| Blue Whale [36]  | Endangered | Species or species habitat may occur within area       |
| <a href="#">Dasyurus hallucatus</a>                          |            |  |
| Northern Quoll [331]   | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Megaptera novaeangliae</a>                       |            |  |
| Humpback Whale [38]  | Vulnerable | Congregation or aggregation known to occur within area |
| <a href="#">Nyctophilus timoriensis (South-eastern form)</a> |            |  |
| Greater Long-eared Bat, South-eastern Long-eared Bat [66888] | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Pteropus conspicillatus</a>                      |            |  |
| Spectacled Flying-fox [185]                                  | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Rhinolophus philippinensis (large form)</a>      |            |  |
| Greater Large-eared Horseshoe Bat [66890]                    | Endangered | Species or species habitat may occur within area       |
| <a href="#">Xeromys myoides</a>                              |            |  |
| Water Mouse, False Water Rat [66]                            | Vulnerable | Species or species habitat likely to occur within area |

#### OTHER

|                                   |            |  |
|-----------------------------------|------------|--|
| <a href="#">Cycas ophiolitica</a> |            |  |
| [55797]                           | Endangered | Species or species habitat likely to occur within area |



| Name   | Status     | Type of Presence                                       |
|--|------------|--|
| <b>PLANTS</b>  |            |  |
| <a href="#">Acacia ramiflora</a><br>[7242]   | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Aristida granitica</a><br>[4065]   | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Croton magneticus</a><br>[16681]   | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Dichanthium queenslandicum</a><br>King Blue-grass [5481]                       | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Digitaria porrecta</a><br>Finger Panic Grass [12768]                           | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Eucalyptus raveretiana</a><br>Black Ironbox [16344]                            | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Leucopogon cuspidatus</a><br>[9739]  | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Ozothamnus eriocephalus</a><br>[56133]   | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Taeniophyllum muelleri</a><br>Minute Orchid, Ribbon-root Orchid [10771]        | Vulnerable | Species or species habitat likely to occur within area |
| <b>REPTILES</b>  |            |  |
| <a href="#">Caretta caretta</a><br>Loggerhead Turtle [1763]                                | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Chelonia mydas</a><br>Green Turtle [1765]                                      | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Delma labialis</a><br>Striped-tailed Delma, Single-striped Delma [25930]       | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Denisonia maculata</a><br>Ornamental Snake [1193]                              | Vulnerable | Species or species habitat known to occur within area  |
| <a href="#">Dermochelys coriacea</a><br>Leatherback Turtle, Leathery Turtle, Luth [1768]   | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Egernia rugosa</a><br>Yakka Skink [1420]                                       | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Eretmochelys imbricata</a><br>Hawksbill Turtle [1766]                          | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Furina dunmali</a><br>Dunmall's Snake [59254]                                  | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Lepidochelys olivacea</a><br>Olive Ridley Turtle, Pacific Ridley Turtle [1767] | Endangered | Species or species habitat likely to occur             |

| Name   | Status     | Type of Presence                                       |
|--|------------|--|
| within area  |            |  |
| <a href="#">Lerista allanae</a><br>Allan's Lerista, Retro Slider [1378]                            | Endangered | Species or species habitat may occur within area       |
| <a href="#">Lerista vittata</a><br>Mount Cooper Striped Lerista [1308]                             | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Natator depressus</a><br>Flatback Turtle [59257]                                       | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Paradelma orientalis</a><br>Brigalow Scaly-foot [59134]                                | Vulnerable | Species or species habitat known to occur within area  |
| <a href="#">Rheodytes leukops</a><br>Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle [1761] | Vulnerable | Species or species habitat may occur within area       |
| SHARKS   |            |  |
| <a href="#">Pristis zijsron</a><br>Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]          | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Rhincodon typus</a><br>Whale Shark [66680]   | Vulnerable | Species or species habitat may occur within area       |
| Migratory Species  |            | [ Resource Information ]                               |
| * Species is listed under a different scientific name on the EPBC Act - Threatened Species list.   |            |  |
| Name   | Threatened | Type of Presence                                       |
| Migratory Marine Birds   |            |  |
| <a href="#">Apus pacificus</a><br>Fork-tailed Swift [678]  |            | Species or species habitat may occur within area       |
| <a href="#">Ardea alba</a><br>Great Egret, White Egret [59541]                                     |            | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a><br>Cattle Egret [59542]   |            | Species or species habitat may occur within area       |
| <a href="#">Sterna albifrons</a><br>Little Tern [813]  |            | Species or species habitat may occur within area       |
| Migratory Marine Species   |            |  |
| <a href="#">Balaenoptera edeni</a><br>Bryde's Whale [35]   |            | Species or species habitat may occur within area       |
| <a href="#">Balaenoptera musculus</a><br>Blue Whale [36]   | Endangered | Species or species habitat may occur within area       |
| <a href="#">Caretta caretta</a><br>Loggerhead Turtle [1763]  | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Chelonia mydas</a><br>Green Turtle [1765]  | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Crocodylus porosus</a><br>Salt-water Crocodile, Estuarine Crocodile [1774]             |            | Species or species habitat likely to occur within area |

| Name   | Threatened | Type of Presence                                       |
|--|------------|--|
| <a href="#">Dermochelys coriacea</a><br>Leatherback Turtle, Leathery Turtle, Luth [1768]   | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Dugong dugon</a><br>Dugong [28]  |            | Species or species habitat likely to occur within area |
| <a href="#">Eretmochelys imbricata</a><br>Hawksbill Turtle [1766]                          | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Lamna nasus</a><br>Porbeagle, Mackerel Shark [83288]                           |            | Species or species habitat may occur within area       |
| <a href="#">Lepidochelys olivacea</a><br>Olive Ridley Turtle, Pacific Ridley Turtle [1767] | Endangered | Species or species habitat likely to occur within area |
| <a href="#">Megaptera novaeangliae</a><br>Humpback Whale [38]                              | Vulnerable | Congregation or aggregation known to occur within area |
| <a href="#">Natator depressus</a><br>Flatback Turtle [59257]                               | Vulnerable | Species or species habitat likely to occur within area |
| <a href="#">Orcaella brevirostris</a><br>Irrawaddy Dolphin [45]                            |            | Species or species habitat may occur within area       |
| <a href="#">Orcinus orca</a><br>Killer Whale, Orca [46]                                    |            | Species or species habitat may occur within area       |
| <a href="#">Rhincodon typus</a><br>Whale Shark [66680]                                     | Vulnerable | Species or species habitat may occur within area       |
| <a href="#">Sousa chinensis</a><br>Indo-Pacific Humpback Dolphin [50]                      |            | Species or species habitat may occur within area       |
| <b>Migratory Terrestrial Species</b>   |            |  |
| <a href="#">Haliaeetus leucogaster</a><br>White-bellied Sea-Eagle [943]                    |            | Species or species habitat likely to occur within area |
| <a href="#">Hirundapus caudacutus</a><br>White-throated Needletail [682]                   |            | Species or species habitat may occur within area       |
| <a href="#">Hirundo rustica</a><br>Barn Swallow [662]                                      |            | Species or species habitat may occur within area       |
| <a href="#">Merops ornatus</a><br>Rainbow Bee-eater [670]                                  |            | Species or species habitat may occur within area       |
| <a href="#">Monarcha melanopsis</a><br>Black-faced Monarch [609]                           |            | Breeding may occur within area                         |
| <a href="#">Monarcha trivirgatus</a><br>Spectacled Monarch [610]                           |            | Breeding likely to occur within area                   |
| <a href="#">Myiagra cyanoleuca</a><br>Satin Flycatcher [612]                               |            | Species or species habitat likely to occur within area |
| <b>Migratory Wetlands Species</b>  |            |  |

| Name   | Threatened  | Type of Presence                                       |
|--|-------------|--|
| <a href="#">Ardea alba</a><br>Great Egret, White Egret [59541]                               |             | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a><br>Cattle Egret [59542]   |             | Species or species habitat may occur within area       |
| <a href="#">Gallinago hardwickii</a><br>Latham's Snipe, Japanese Snipe [863]                 |             | Species or species habitat may occur within area       |
| <a href="#">Nettapus coromandelianus albipennis</a><br>Australian Cotton Pygmy-goose [25979] |             | Species or species habitat may occur within area       |
| <a href="#">Rostratula benghalensis s. lat.</a><br>Painted Snipe [889]                       | Vulnerable* | Species or species habitat may occur within area       |
| <a href="#">Tringa stagnatilis</a><br>Marsh Sandpiper, Little Greenshank [833]               |             | Species or species habitat likely to occur within area |

## Other Matters Protected by the EPBC Act

| Listed Marine Species  | [ Resource Information ] |  |
|--|--------------------------|--|
| * Species is listed under a different scientific name on the EPBC Act - Threatened Species list. |                          |  |
| Name   | Threatened               | Type of Presence                                       |
| Birds  |                          |  |
| <a href="#">Anseranas semipalmata</a>  |                          |  |
| Magpie Goose [978]   |                          | Species or species habitat may occur within area       |
| <a href="#">Apus pacificus</a>   |                          |  |
| Fork-tailed Swift [678]  |                          | Species or species habitat may occur within area       |
| <a href="#">Ardea alba</a>   |                          |  |
| Great Egret, White Egret [59541]   |                          | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a>   |                          |  |
| Cattle Egret [59542]   |                          | Species or species habitat may occur within area       |
| <a href="#">Gallinago hardwickii</a>   |                          |  |
| Latham's Snipe, Japanese Snipe [863]   |                          | Species or species habitat may occur within area       |
| <a href="#">Haliaeetus leucogaster</a>   |                          |  |
| White-bellied Sea-Eagle [943]  |                          | Species or species habitat likely to occur within area |
| <a href="#">Hirundapus caudacutus</a>  |                          |  |
| White-throated Needletail [682]  |                          | Species or species habitat may occur within area       |
| <a href="#">Hirundo rustica</a>  |                          |  |
| Barn Swallow [662]   |                          | Species or species habitat may occur within area       |
| <a href="#">Merops ornatus</a>   |                          |  |
| Rainbow Bee-eater [670]  |                          | Species or species habitat may occur within area       |

| Name   | Threatened  | Type of Presence                                       |
|--|-------------|--|
| <a href="#">Monarcha melanopsis</a><br>Black-faced Monarch [609]   |             | Breeding may occur within area                         |
| <a href="#">Monarcha trivirgatus</a><br>Spectacled Monarch [610]   |             | Breeding likely to occur within area                   |
| <a href="#">Myiagra cyanoleuca</a><br>Satin Flycatcher [612]   |             | Species or species habitat likely to occur within area |
| <a href="#">Nettapus coromandelianus albipennis</a><br>Australian Cotton Pygmy-goose [25979]                           |             | Species or species habitat may occur within area       |
| <a href="#">Rostratula benghalensis s. lat.</a><br>Painted Snipe [889]   | Vulnerable* | Species or species habitat may occur within area       |
| <a href="#">Sterna albifrons</a><br>Little Tern [813]  |             | Species or species habitat may occur within area       |
| <a href="#">Tringa stagnatilis</a><br>Marsh Sandpiper, Little Greenshank [833]   |             | Species or species habitat likely to occur within area |
| <b>Fish</b>  |             |  |
| <a href="#">Acentronura tentaculata</a><br>Shortpouch Pygmy Pipehorse [66187]  |             | Species or species habitat may occur within area       |
| <a href="#">Campichthys tryoni</a><br>Tryon's Pipefish [66193]   |             | Species or species habitat may occur within area       |
| <a href="#">Choeroichthys brachysoma</a><br>Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]               |             | Species or species habitat may occur within area       |
| <a href="#">Choeroichthys suillus</a><br>Pig-snouted Pipefish [66198]  |             | Species or species habitat may occur within area       |
| <a href="#">Corythoichthys amplexus</a><br>Fijian Banded Pipefish, Brown-banded Pipefish [66199]                       |             | Species or species habitat may occur within area       |
| <a href="#">Corythoichthys flavofasciatus</a><br>Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200] |             | Species or species habitat may occur within area       |
| <a href="#">Corythoichthys intestinalis</a><br>Australian Messmate Pipefish, Banded Pipefish [66202]                   |             | Species or species habitat may occur within area       |
| <a href="#">Corythoichthys ocellatus</a><br>Orange-spotted Pipefish, Ocellated Pipefish [66203]                        |             | Species or species habitat may occur within area       |
| <a href="#">Corythoichthys paxtoni</a><br>Paxton's Pipefish [66204]  |             | Species or species habitat may occur within area       |
| <a href="#">Corythoichthys schultzi</a><br>Schultz's Pipefish [66205]  |             | Species or species habitat may occur within area       |
| <a href="#">Cosmocampus darrosanus</a><br>D'Arros Pipefish [66207]   |             | Species or species habitat may occur within area       |
| <a href="#">Doryrhamphus excisus</a><br>Bluestripe Pipefish, Indian Blue-stripe Pipefish,                              |             | Species or species                                     |

| Name  | Threatened | Type of Presence                                 |
|---|------------|--|
| <a href="#">Pacific Blue-stripe Pipefish</a> [66211]      |            | habitat may occur within area                    |
| <a href="#">Festucalex cinctus</a>                        |            |  |
| Girdled Pipefish [66214]                                  |            | Species or species habitat may occur within area |
| <a href="#">Halicampus dunckeri</a>                       |            |  |
| Red-hair Pipefish, Duncker's Pipefish [66220]             |            | Species or species habitat may occur within area |
| <a href="#">Halicampus grayi</a>                          |            |  |
| Mud Pipefish, Gray's Pipefish [66221]                     |            | Species or species habitat may occur within area |
| <a href="#">Halicampus nitidus</a>                        |            |  |
| Glittering Pipefish [66224]                               |            | Species or species habitat may occur within area |
| <a href="#">Halicampus spinirostris</a>                   |            |  |
| Spiny-snout Pipefish [66225]                              |            | Species or species habitat may occur within area |
| <a href="#">Hippichthys cyanospilos</a>                   |            |  |
| Blue-speckled Pipefish, Blue-spotted Pipefish [66228]     |            | Species or species habitat may occur within area |
| <a href="#">Hippichthys heptagonus</a>                    |            |  |
| Madura Pipefish, Reticulated Freshwater Pipefish [66229]  |            | Species or species habitat may occur within area |
| <a href="#">Hippichthys penicillus</a>                    |            |  |
| Beady Pipefish, Steep-nosed Pipefish [66231]              |            | Species or species habitat may occur within area |
| <a href="#">Hippocampus bargibanti</a>                    |            |  |
| Pygmy Seahorse [66721]                                    |            | Species or species habitat may occur within area |
| <a href="#">Hippocampus kuda</a>                          |            |  |
| Spotted Seahorse, Yellow Seahorse [66237]                 |            | Species or species habitat may occur within area |
| <a href="#">Hippocampus planifrons</a>                    |            |  |
| Flat-face Seahorse [66238]                                |            | Species or species habitat may occur within area |
| <a href="#">Hippocampus zebra</a>                         |            |  |
| Zebra Seahorse [66241]                                    |            | Species or species habitat may occur within area |
| <a href="#">Micrognathus andersonii</a>                   |            |  |
| Anderson's Pipefish, Shortnose Pipefish [66253]           |            | Species or species habitat may occur within area |
| <a href="#">Micrognathus brevirostris</a>                 |            |  |
| thorntail Pipefish, Thorn-tailed Pipefish [66254]         |            | Species or species habitat may occur within area |
| <a href="#">Nannocampus pictus</a>                        |            |  |
| Painted Pipefish, Reef Pipefish [66263]                   |            | Species or species habitat may occur within area |
| <a href="#">Solegnathus hardwickii</a>                    |            |  |
| Pallid Pipehorse, Hardwick's Pipehorse [66272]            |            | Species or species habitat may occur within area |
| <a href="#">Solenostomus cyanopterus</a>                  |            |  |
| Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183] |            | Species or species habitat may occur within area |
| <a href="#">Solenostomus paegnius</a>                     |            |  |
| Rough-snout Ghost Pipefish [68425]                        |            | Species or species habitat may occur within      |



| Name   | Threatened | Type of Presence   |
|--|------------|--|
| <a href="#">Solenostomus paradoxus</a><br>Ornate Ghostpipefish, Harlequin Ghost Pipefish,<br>Ornate Ghost Pipefish [66184]     |            | area<br><br>Species or species<br>habitat may occur within<br>area |
| <a href="#">Syngnathoides biaculeatus</a><br>Double-end Pipehorse, Double-ended Pipehorse,<br>Alligator Pipefish [66279]       |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Trachyrhamphus bicoarctatus</a><br>Bentstick Pipefish, Bend Stick Pipefish, Short-<br>tailed Pipefish [66280]      |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Trachyrhamphus longirostris</a><br>Straightstick Pipefish, Long-nosed Pipefish,<br>Straight Stick Pipefish [66281] |            | Species or species<br>habitat may occur within<br>area             |
| <b>Mammals</b>   |            |  |
| <a href="#">Dugong dugon</a><br>Dugong [28]  |            | Species or species<br>habitat likely to occur<br>within area       |
| <b>Reptiles</b>  |            |  |
| <a href="#">Acalyptophis peronii</a><br>Horned Seasnake [1114]   |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Aipysurus duboisii</a><br>Dubois' Seasnake [1116]  |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Aipysurus eydouxii</a><br>Spine-tailed Seasnake [1117]   |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Aipysurus laevis</a><br>Olive Seasnake [1120]  |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Astrotia stokesii</a><br>Stokes' Seasnake [1122]   |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Caretta caretta</a><br>Loggerhead Turtle [1763]  | Endangered | Species or species<br>habitat likely to occur<br>within area       |
| <a href="#">Chelonia mydas</a><br>Green Turtle [1765]  | Vulnerable | Species or species<br>habitat likely to occur<br>within area       |
| <a href="#">Crocodylus porosus</a><br>Salt-water Crocodile, Estuarine Crocodile [1774]   |            | Species or species<br>habitat likely to occur<br>within area       |
| <a href="#">Dermochelys coriacea</a><br>Leatherback Turtle, Leathery Turtle, Luth [1768]                                       | Endangered | Species or species<br>habitat likely to occur<br>within area       |
| <a href="#">Disteira kingii</a><br>Spectacled Seasnake [1123]  |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Disteira major</a><br>Olive-headed Seasnake [1124]   |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Enhydrina schistosa</a><br>Beaked Seasnake [1126]  |            | Species or species<br>habitat may occur within<br>area             |
| <a href="#">Eretmochelys imbricata</a><br>Hawksbill Turtle [1766]  | Vulnerable | Species or species   |

| Name   | Threatened | Type of Presence  |
|--|------------|---|
| <a href="#">Hydrophis elegans</a><br>Elegant Seasnake [1104]                               |            | habitat likely to occur within area<br><br>Species or species habitat may occur within area |
| <a href="#">Hydrophis mcdowelli</a><br>null [25926]  |            | Species or species habitat may occur within area  |
| <a href="#">Hydrophis ornatus</a><br>a seasnake [1111]                                     |            | Species or species habitat may occur within area  |
| <a href="#">Lapemis hardwickii</a><br>Spine-bellied Seasnake [1113]                        |            | Species or species habitat may occur within area  |
| <a href="#">Laticauda colubrina</a><br>a sea krait [1092]                                  |            | Species or species habitat may occur within area  |
| <a href="#">Laticauda laticaudata</a><br>a sea krait [1093]                                |            | Species or species habitat may occur within area  |
| <a href="#">Lepidochelys olivacea</a><br>Olive Ridley Turtle, Pacific Ridley Turtle [1767] | Endangered | Species or species habitat likely to occur within area                                      |
| <a href="#">Natator depressus</a><br>Flatback Turtle [59257]                               | Vulnerable | Species or species habitat likely to occur within area                                      |
| <a href="#">Pelamis platurus</a><br>Yellow-bellied Seasnake [1091]                         |            | Species or species habitat may occur within area  |
| Whales and other Cetaceans   |            | [ Resource Information ]  |
| Name   | Status     | Type of Presence  |
| Mammals  |            |   |
| <a href="#">Balaenoptera acutorostrata</a><br>Minke Whale [33]                             |            | Species or species habitat may occur within area  |
| <a href="#">Balaenoptera edeni</a><br>Bryde's Whale [35]                                   |            | Species or species habitat may occur within area  |
| <a href="#">Balaenoptera musculus</a><br>Blue Whale [36]                                   | Endangered | Species or species habitat may occur within area  |
| <a href="#">Delphinus delphis</a><br>Common Dolphin, Short-beaked Common Dolphin [60]      |            | Species or species habitat may occur within area  |
| <a href="#">Grampus griseus</a><br>Risso's Dolphin, Grampus [64]                           |            | Species or species habitat may occur within area  |
| <a href="#">Megaptera novaeangliae</a><br>Humpback Whale [38]                              | Vulnerable | Congregation or aggregation known to occur within area                                      |
| <a href="#">Orcaella brevirostris</a><br>Irrawaddy Dolphin [45]                            |            | Species or species habitat may occur within area  |
| <a href="#">Orcinus orca</a><br>Killer Whale, Orca [46]                                    |            | Species or species habitat may occur within   |

| Name  | Status | Type of Presence   |
|---|--------|--|
| <a href="#">Sousa chinensis</a><br>Indo-Pacific Humpback Dolphin [50]                                   |        | area<br><br>Species or species habitat may occur within area |
| <a href="#">Stenella attenuata</a><br>Spotted Dolphin, Pantropical Spotted Dolphin [51]                 |        | Species or species habitat may occur within area             |
| <a href="#">Tursiops aduncus</a><br>Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418] |        | Species or species habitat likely to occur within area       |
| <a href="#">Tursiops truncatus s. str.</a><br>Bottlenose Dolphin [68417]                                |        | Species or species habitat may occur within area             |

## Extra Information

### Places on the RNE [ Resource Information ]

Note that not all Indigenous sites may be listed.

| Name   | State | Status     |
|--|-------|------------|
| Natural  |       |            |
| <a href="#">Great Barrier Reef Region</a>                    | QLD   | Registered |
| <a href="#">Mount Aberdeen National Park (1978 boundary)</a> | QLD   | Registered |

### State and Territory Reserves [ Resource Information ]

| Name                     | State |
|--------------------------|-------|
| Aberdeen                 | QLD   |
| Blackjack Mountain       | QLD   |
| Great Barrier Reef Coast | QLD   |
| Homehaven                | QLD   |
| Mount Aberdeen           | QLD   |
| Mount Pleasant           | QLD   |

### Invasive Species [ Resource Information ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit,

| Name   | Status | Type of Presence                                       |
|--|--------|--|
| Frogs  |        |  |
| <a href="#">Bufo marinus</a><br>Cane Toad [1772] |        | Species or species habitat likely to occur within area |

### Mammals

|  |  |
|--|--|
| <a href="#">Capra hircus</a><br>Goat [2]                               | Species or species habitat likely to occur within area |
| <a href="#">Felis catus</a><br>Cat, House Cat, Domestic Cat [19]       | Species or species habitat likely to occur within area |
| <a href="#">Oryctolagus cuniculus</a><br>Rabbit, European Rabbit [128] | Species or species habitat likely to occur within area |
| <a href="#">Sus scrofa</a><br>Pig [6]                                  | Species or species habitat likely to occur within area |

| Name   | Status | Type of Presence                                       |
|--|--------|--|
| <a href="#">Vulpes vulpes</a><br>Red Fox, Fox [18]   |        | Species or species habitat likely to occur within area |
| <b>Plants</b>  |        |  |
| <a href="#">Acacia nilotica subsp. indica</a><br>Prickly Acacia [6196]   |        | Species or species habitat may occur within area       |
| <a href="#">Cryptostegia grandiflora</a><br>Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]   |        | Species or species habitat likely to occur within area |
| <a href="#">Hymenachne amplexicaulis</a><br>Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]  |        | Species or species habitat likely to occur within area |
| <a href="#">Lantana camara</a><br>Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892] |        | Species or species habitat likely to occur within area |
| <a href="#">Mimosa pigra</a><br>Mimosa, Giant Mimosa, Giant Sensitive Plant, Thorny Sensitive Plant, Black Mimosa, Catclaw Mimosa, Bashful Plant [11223]                                     |        | Species or species habitat likely to occur within area |
| <a href="#">Parkinsonia aculeata</a><br>Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]  |        | Species or species habitat likely to occur within area |
| <a href="#">Parthenium hysterophorus</a><br>Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]  |        | Species or species habitat likely to occur within area |
| <a href="#">Prosopis spp.</a><br>Mesquite, Algaroba [68407]  |        | Species or species habitat likely to occur within area |
| <a href="#">Salvinia molesta</a><br>Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]  |        | Species or species habitat likely to occur within area |

| Nationally Important Wetlands                  |  | [ Resource Information ] |
|--|--|--------------------------|
| Name   |  | State                    |
| <a href="#">Abbot Point - Caley Valley</a>     |  | QLD                      |
| <a href="#">Great Barrier Reef Marine Park</a> |  | QLD                      |

## Coordinates

-19.90074 148.08405,-19.9448 148.10442,-19.99571 148.08796,-20.01014 148.10249,  
-20.00883 148.13083,-20.01852 148.16029,-20.02917 148.16333,-20.07021 148.14461,  
-20.12632 148.09338,-20.13859 148.04801,-20.15648 148.03244,-20.17258 147.99819,  
-20.18622 147.98019,-20.19875 147.95443,-20.21528 147.95577,-20.25858 147.93459,  
-20.28901 147.93812,-20.37492 147.8892,-20.39846 147.87965,-20.41364 147.86182,  
-20.46163 147.85834,-20.47462 147.86038,-20.50687 147.84479,-20.53397 147.84557,  
-20.55371 147.85301,-20.57028 147.84473,-20.58634 147.85072,-20.59372 147.86062,  
-20.79613 147.83783,-20.84181 147.84587,-21.11008 147.92314,-21.12523 147.90357,  
-21.17427 147.88961,-21.15155 147.89394,-21.17122 147.86358,-21.21167 147.82511,  
-21.25327 147.81993,-21.30981 147.84143,-21.34614 147.84209,-21.37085 147.86183,  
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-21.6471 147.90796,-21.68475 147.93514,-21.73431 147.92177,-21.74831 147.91272,  
-21.76516 147.93746,-21.77105 147.94878,-21.80198 147.95686,-21.82409 147.95399,  
-21.84866 147.96681

## Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

## Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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Please feel free to provide feedback via the [Contact Us page](#).

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# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

Report created: 02/12/11 12:02:56

## [Summary](#)

### [Details](#)

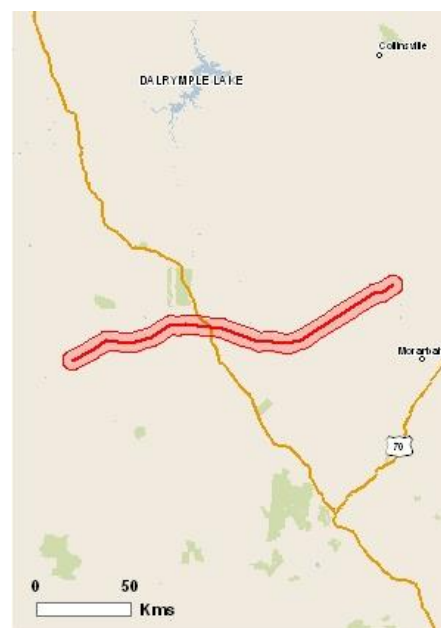
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)



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[Coordinates](#)

Buffer: 5.0Km



## Summary

### Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>

|  |      |
|--|------|
| <a href="#">World Heritage Properties:</a>         | None |
| <a href="#">National Heritage Places:</a>          | None |
| <a href="#">Wetlands of International</a>          | None |
| <a href="#">Great Barrier Reef Marine Park:</a>    | None |
| <a href="#">Commonwealth Marine Areas:</a>         | None |
| <a href="#">Threatened Ecological Communities:</a> | 3    |
| <a href="#">Threatened Species:</a>                | 14   |
| <a href="#">Migratory Species:</a>                 | 12   |

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov>.

|   |      |
|---|------|
| <a href="#">Commonwealth Lands:</a>           | None |
| <a href="#">Commonwealth Heritage Places:</a> | None |
| <a href="#">Listed Marine Species:</a>        | 10   |
| <a href="#">Whales and Other Cetaceans:</a>   | None |
| <a href="#">Critical Habitats:</a>            | None |
| <a href="#">Commonwealth Reserves:</a>        | None |

## Extra Information

This part of the report provides information that may also be relevant to the area you have

|  |      |
|--|------|
| <a href="#">Place on the RNE:</a>              | None |
| <a href="#">State and Territory Reserves:</a>  | None |
| <a href="#">Regional Forest Agreements:</a>    | None |
| <a href="#">Invasive Species:</a>              | 11   |
| <a href="#">Nationally Important Wetlands:</a> | None |

## Details

### Matters of National Environmental Significance

#### Threatened Ecological Communities

[ [Resource Information](#) ]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

| Name   | Status     | Type of Presence                     |
|--|------------|--------------------------------------|
| <a href="#">Brigalow (Acacia harpophylla dominant and co-dominant)</a> | Endangered | Community known to occur within area |
| <a href="#">Natural Grasslands of the Queensland Central</a>           | Endangered | Community likely to                  |

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

| Name  | Status     | Type of Presence                                       |
|---|------------|--|
| <a href="#">Highlands and the northern Fitzroy Basin</a>  | Endangered | occur within area                                      |
| <a href="#">Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions</a> |            | Community likely to occur within area                  |
| Threatened Species  |            | [ Resource Information ]                               |
| Name  | Status     | Type of Presence                                       |
| BIRDS   |            |  |
| <a href="#">Erythroriorchis radiatus</a>  | Vulnerable | Species or species habitat likely to occur within area |
| Red Goshawk [942]   |            |  |
| <a href="#">Geophaps scripta scripta</a>  | Vulnerable | Species or species habitat likely to occur within area |
| Squatter Pigeon (southern) [64440]  |            |  |
| <a href="#">Neochmia ruficauda ruficauda</a>  | Endangered | Species or species habitat likely to occur within area |
| Star Finch (eastern), Star Finch (southern) [26027]   |            |  |
| <a href="#">Poephila cincta cincta</a>  | Endangered | Species or species habitat likely to occur within area |
| Black-throated Finch (southern) [64447]   |            |  |
| <a href="#">Rostratula australis</a>  | Vulnerable | Species or species habitat may occur within area       |
| Australian Painted Snipe [77037]  |            |  |
| MAMMALS   |            |  |
| <a href="#">Dasyurus hallucatus</a>   | Endangered | Species or species habitat may occur within area       |
| Northern Quoll [331]  |            |  |
| <a href="#">Nyctophilus timoriensis (South-eastern form)</a>  | Vulnerable | Species or species habitat may occur within area       |
| Greater Long-eared Bat, South-eastern Long-eared Bat [66888]  |            |  |
| PLANTS  |            |  |
| <a href="#">Acacia ramiflora</a>  | Vulnerable | Species or species habitat likely to occur within area |
| [7242]  |            |  |
| REPTILES  |            |  |
| <a href="#">Denisonia maculata</a>  | Vulnerable | Species or species habitat known to occur within area  |
| Ornamental Snake [1193]   |            |  |
| <a href="#">Egernia rugosa</a>  | Vulnerable | Species or species habitat may occur within area       |
| Yakka Skink [1420]  |            |  |
| <a href="#">Furina dunmali</a>  | Vulnerable | Species or species habitat may occur within area       |
| Dunmall's Snake [59254]   |            |  |
| <a href="#">Lerista allanae</a>   | Endangered | Species or species habitat may occur within area       |
| Allan's Lerista, Retro Slider [1378]  |            |  |
| <a href="#">Paradelma orientalis</a>  | Vulnerable | Species or species habitat known to occur within area  |
| Brigalow Scaly-foot [59134]   |            |  |
| <a href="#">Rheodytes leukops</a>   | Vulnerable | Species or species habitat may occur within area       |
| Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle [1761]   |            |  |

| Migratory Species  |             | [ Resource Information ]                               |
|--|-------------|--|
| * Species is listed under a different scientific name on the EPBC Act - Threatened Species list. |             |  |
| Name   | Threatened  | Type of Presence                                       |
| <b>Migratory Marine Birds</b>  |             |  |
| <a href="#">Apus pacificus</a><br>Fork-tailed Swift [678]  |             | Species or species habitat may occur within area       |
| <a href="#">Ardea alba</a><br>Great Egret, White Egret [59541]                                   |             | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a><br>Cattle Egret [59542]   |             | Species or species habitat may occur within area       |
| <b>Migratory Terrestrial Species</b>   |             |  |
| <a href="#">Haliaeetus leucogaster</a><br>White-bellied Sea-Eagle [943]                          |             | Species or species habitat likely to occur within area |
| <a href="#">Hirundapus caudacutus</a><br>White-throated Needletail [682]                         |             | Species or species habitat may occur within area       |
| <a href="#">Merops ornatus</a><br>Rainbow Bee-eater [670]  |             | Species or species habitat may occur within area       |
| <a href="#">Monarcha melanopsis</a><br>Black-faced Monarch [609]                                 |             | Species or species habitat may occur within area       |
| <a href="#">Myiagra cyanoleuca</a><br>Satin Flycatcher [612]                                     |             | Species or species habitat likely to occur within area |
| <b>Migratory Wetlands Species</b>  |             |  |
| <a href="#">Ardea alba</a><br>Great Egret, White Egret [59541]                                   |             | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a><br>Cattle Egret [59542]   |             | Species or species habitat may occur within area       |
| <a href="#">Gallinago hardwickii</a><br>Latham's Snipe, Japanese Snipe [863]                     |             | Species or species habitat may occur within area       |
| <a href="#">Rostratula benghalensis s. lat.</a><br>Painted Snipe [889]                           | Vulnerable* | Species or species habitat may occur within area       |

## Other Matters Protected by the EPBC Act

| Listed Marine Species  |            | [ Resource Information ]                         |
|--|------------|--|
| * Species is listed under a different scientific name on the EPBC Act - Threatened Species list. |            |  |
| Name   | Threatened | Type of Presence                                 |
| <b>Birds</b>   |            |  |
| <a href="#">Apus pacificus</a><br>Fork-tailed Swift [678]  |            | Species or species habitat may occur within area |
| <a href="#">Ardea alba</a><br>Great Egret, White Egret [59541]                                   |            | Species or species habitat may occur within      |

| Name   | Threatened  | Type of Presence   |
|--|-------------|--|
| <a href="#">Ardea ibis</a><br>Cattle Egret [59542]                           |             | area<br><br>Species or species habitat may occur within area |
| <a href="#">Gallinago hardwickii</a><br>Latham's Snipe, Japanese Snipe [863] |             | Species or species habitat may occur within area             |
| <a href="#">Haliaeetus leucogaster</a><br>White-bellied Sea-Eagle [943]      |             | Species or species habitat likely to occur within area       |
| <a href="#">Hirundapus caudacutus</a><br>White-throated Needletail [682]     |             | Species or species habitat may occur within area             |
| <a href="#">Merops ornatus</a><br>Rainbow Bee-eater [670]                    |             | Species or species habitat may occur within area             |
| <a href="#">Monarcha melanopsis</a><br>Black-faced Monarch [609]             |             | Species or species habitat may occur within area             |
| <a href="#">Myiagra cyanoleuca</a><br>Satin Flycatcher [612]                 |             | Species or species habitat likely to occur within area       |
| <a href="#">Rostratula benghalensis s. lat.</a><br>Painted Snipe [889]       | Vulnerable* | Species or species habitat may occur within area             |

## Extra Information

### Invasive Species [ Resource Information ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit,

| Name   | Status | Type of Presence                                       |
|--|--------|--|
| <b>Frogs</b>   |        |  |
| <a href="#">Bufo marinus</a><br>Cane Toad [1772]                       |        | Species or species habitat likely to occur within area |
| <b>Mammals</b>   |        |  |
| <a href="#">Felis catus</a><br>Cat, House Cat, Domestic Cat [19]       |        | Species or species habitat likely to occur within area |
| <a href="#">Oryctolagus cuniculus</a><br>Rabbit, European Rabbit [128] |        | Species or species habitat likely to occur within area |
| <a href="#">Sus scrofa</a><br>Pig [6]                                  |        | Species or species habitat likely to occur             |



| Name   | Status | Type of Presence  |
|--|--------|---|
| <a href="#">Vulpes vulpes</a><br>Red Fox, Fox [18]   |        | within area<br><br>Species or species habitat likely to occur within area |
| <b>Plants</b>  |        |   |
| <a href="#">Acacia nilotica subsp. indica</a><br>Prickly Acacia [6196]   |        | Species or species habitat may occur within area                          |
| <a href="#">Cryptostegia grandiflora</a><br>Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913] |        | Species or species habitat likely to occur within area                    |
| <a href="#">Hymenachne amplexicaulis</a><br>Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]        |        | Species or species habitat likely to occur within area                    |
| <a href="#">Parkinsonia aculeata</a><br>Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]  |        | Species or species habitat likely to occur within area                    |
| <a href="#">Parthenium hysterophorus</a><br>Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]  |        | Species or species habitat likely to occur within area                    |
| <a href="#">Prosopis spp.</a><br>Mesquite, Algaroba [68407]  |        | Species or species habitat likely to occur within area                    |

## Coordinates

-21.6471 147.90796,-21.68442 147.85326,-21.6882 147.81856,-21.91215 147.46323,  
-21.92696 147.40238,-21.91571 147.33036,-21.9196 147.26835,-21.85189 147.09199,  
-21.83405 146.91679,-21.84175 146.8896,-21.84019 146.84024,-21.89384 146.75902,  
-21.92279 146.66131,-21.91162 146.5417,-21.95301 146.48131,-22.00642 146.37898

## Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants

- some species and ecological communities that have only recently been listed
  - some terrestrial species that overfly the Commonwealth marine area
  - migratory species that are very widespread, vagrant, or only occur in small numbers
- The following groups have been mapped, but may not cover the complete distribution of the species:
- non-threatened seabirds which have only been mapped for recorded breeding sites
  - seals which have only been mapped for breeding sites near the Australian continent
- Such breeding sites may be important for the protection of the Commonwealth Marine environment.

## Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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Please feel free to provide feedback via the [Contact Us](#) page.





# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

Report created: 02/12/11 12:10:26

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are  
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[Coordinates](#)

Buffer: 5.0Km



## Summary

### Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>

|  |      |
|--|------|
| <a href="#">World Heritage Properties:</a>         | None |
| <a href="#">National Heritage Places:</a>          | None |
| <a href="#">Wetlands of International</a>          | None |
| <a href="#">Great Barrier Reef Marine Park:</a>    | None |
| <a href="#">Commonwealth Marine Areas:</a>         | None |
| <a href="#">Threatened Ecological Communities:</a> | 3    |
| <a href="#">Threatened Species:</a>                | 9    |
| <a href="#">Migratory Species:</a>                 | 11   |

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov>.

|   |      |
|---|------|
| <a href="#">Commonwealth Lands:</a>           | None |
| <a href="#">Commonwealth Heritage Places:</a> | None |
| <a href="#">Listed Marine Species:</a>        | 9    |
| <a href="#">Whales and Other Cetaceans:</a>   | None |
| <a href="#">Critical Habitats:</a>            | None |
| <a href="#">Commonwealth Reserves:</a>        | None |

## Extra Information

This part of the report provides information that may also be relevant to the area you have

|  |      |
|--|------|
| <a href="#">Place on the RNE:</a>              | None |
| <a href="#">State and Territory Reserves:</a>  | None |
| <a href="#">Regional Forest Agreements:</a>    | None |
| <a href="#">Invasive Species:</a>              | 9    |
| <a href="#">Nationally Important Wetlands:</a> | None |

## Details

### Matters of National Environmental Significance

#### Threatened Ecological Communities [\[ Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

| Name   | Status     | Type of Presence                     |
|--|------------|--------------------------------------|
| <a href="#">Brigalow (Acacia harpophylla dominant and co-dominant)</a> | Endangered | Community known to occur within area |
| <a href="#">Natural Grasslands of the Queensland Central</a>           | Endangered | Community may occur                  |

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

| Name   | Status     | Type of Presence                      |
|--|------------|---------------------------------------|
| <a href="#">Highlands and the northern Fitzroy Basin</a> | Endangered | within area                           |
| <a href="#">Weeping Myall Woodlands</a>                  |            | Community likely to occur within area |

## Threatened Species [\[ Resource Information \]](#)

| Name | Status | Type of Presence |
|------|--------|------------------|
|------|--------|------------------|

### BIRDS

|   |            |  |
|---|------------|--|
| <a href="#">Erythroriorchis radiatus</a>            | Vulnerable | Species or species habitat likely to occur within area |
| Red Goshawk [942]                                   |            |  |
| <a href="#">Geophaps scripta scripta</a>            | Vulnerable | Species or species habitat likely to occur within area |
| Squatter Pigeon (southern) [64440]                  |            |  |
| <a href="#">Neochmia ruficauda ruficauda</a>        | Endangered | Species or species habitat likely to occur within area |
| Star Finch (eastern), Star Finch (southern) [26027] |            |  |
| <a href="#">Poephila cincta cincta</a>              | Endangered | Species or species habitat likely to occur within area |
| Black-throated Finch (southern) [64447]             |            |  |
| <a href="#">Rostratula australis</a>                | Vulnerable | Species or species habitat may occur within area       |
| Australian Painted Snipe [77037]                    |            |  |

### PLANTS

|                                  |            |  |
|----------------------------------|------------|--|
| <a href="#">Acacia ramiflora</a> | Vulnerable | Species or species habitat may occur within area |
| [7242]                           |            |  |

### REPTILES

|                                    |            |  |
|------------------------------------|------------|--|
| <a href="#">Denisonia maculata</a> | Vulnerable | Species or species habitat likely to occur within area |
| Ornamental Snake [1193]            |            |  |
| <a href="#">Egernia rugosa</a>     | Vulnerable | Species or species habitat likely to occur within area |
| Yakka Skink [1420]                 |            |  |
| <a href="#">Furina dunmali</a>     | Vulnerable | Species or species habitat may occur within area       |
| Dunmall's Snake [59254]            |            |  |

## Migratory Species [\[ Resource Information \]](#)

\* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

| Name | Threatened | Type of Presence |
|------|------------|------------------|
|------|------------|------------------|

### Migratory Marine Birds

|                                  |  |  |
|----------------------------------|--|--|
| <a href="#">Apus pacificus</a>   |  | Species or species habitat may occur within area |
| Fork-tailed Swift [678]          |  |  |
| <a href="#">Ardea alba</a>       |  | Species or species habitat may occur within area |
| Great Egret, White Egret [59541] |  |  |
| <a href="#">Ardea ibis</a>       |  | Species or species habitat may occur within area |
| Cattle Egret [59542]             |  |  |

### Migratory Terrestrial Species

|  |  |  |
|--|--|--|
| <a href="#">Haliaeetus leucogaster</a> |  | Species or species habitat likely to occur within area |
| White-bellied Sea-Eagle [943]          |  |  |



| Name   | Threatened  | Type of Presence                                       |
|--|-------------|--|
| <a href="#">Hirundapus caudacutus</a><br>White-throated Needletail [682]     |             | Species or species habitat may occur within area       |
| <a href="#">Merops ornatus</a><br>Rainbow Bee-eater [670]                    |             | Species or species habitat may occur within area       |
| <a href="#">Myiagra cyanoleuca</a><br>Satin Flycatcher [612]                 |             | Species or species habitat likely to occur within area |
| Migratory Wetlands Species   |             |  |
| <a href="#">Ardea alba</a><br>Great Egret, White Egret [59541]               |             | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a><br>Cattle Egret [59542]                           |             | Species or species habitat may occur within area       |
| <a href="#">Gallinago hardwickii</a><br>Latham's Snipe, Japanese Snipe [863] |             | Species or species habitat may occur within area       |
| <a href="#">Rostratula benghalensis s. lat.</a><br>Painted Snipe [889]       | Vulnerable* | Species or species habitat may occur within area       |

## Other Matters Protected by the EPBC Act

| Listed Marine Species  | [ Resource Information ] |  |
|--|--------------------------|--|
| * Species is listed under a different scientific name on the EPBC Act - Threatened Species list. |                          |  |
| Name   | Threatened               | Type of Presence                                       |
| Birds  |                          |  |
| <a href="#">Apus pacificus</a>   |                          |  |
| Fork-tailed Swift [678]  |                          | Species or species habitat may occur within area       |
| <a href="#">Ardea alba</a>   |                          |  |
| Great Egret, White Egret [59541]   |                          | Species or species habitat may occur within area       |
| <a href="#">Ardea ibis</a>   |                          |  |
| Cattle Egret [59542]   |                          | Species or species habitat may occur within area       |
| <a href="#">Gallinago hardwickii</a>   |                          |  |
| Latham's Snipe, Japanese Snipe [863]   |                          | Species or species habitat may occur within area       |
| <a href="#">Haliaeetus leucogaster</a>   |                          |  |
| White-bellied Sea-Eagle [943]  |                          | Species or species habitat likely to occur within area |
| <a href="#">Hirundapus caudacutus</a>  |                          |  |
| White-throated Needletail [682]  |                          | Species or species habitat may occur within area       |
| <a href="#">Merops ornatus</a>   |                          |  |
| Rainbow Bee-eater [670]  |                          | Species or species habitat may occur within area       |
| <a href="#">Myiagra cyanoleuca</a>   |                          |  |
| Satin Flycatcher [612]   |                          | Species or species habitat likely to occur within area |

| Name   | Threatened  | Type of Presence                                 |
|--|-------------|--|
| <a href="#">Rostratula benghalensis s. lat.</a><br>Painted Snipe [889] | Vulnerable* | Species or species habitat may occur within area |

## Extra Information

### Invasive Species [ Resource Information ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit,

| Name   | Status | Type of Presence                                       |
|--|--------|--|
| <b>Frogs</b>                                     |        |  |
| <a href="#">Bufo marinus</a><br>Cane Toad [1772] |        | Species or species habitat likely to occur within area |

### Mammals

|  |  |  |
|--|--|--|
| <a href="#">Felis catus</a><br>Cat, House Cat, Domestic Cat [19]       |  | Species or species habitat likely to occur within area |
| <a href="#">Oryctolagus cuniculus</a><br>Rabbit, European Rabbit [128] |  | Species or species habitat likely to occur within area |
| <a href="#">Sus scrofa</a><br>Pig [6]                                  |  | Species or species habitat likely to occur within area |
| <a href="#">Vulpes vulpes</a><br>Red Fox, Fox [18]                     |  | Species or species habitat likely to occur within area |

### Plants

|  |  |  |
|--|--|--|
| <a href="#">Cryptostegia grandiflora</a><br>Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]   |  | Species or species habitat likely to occur within area |
| <a href="#">Lantana camara</a><br>Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892] |  | Species or species habitat likely to occur within area |
| <a href="#">Parkinsonia aculeata</a><br>Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]  |  | Species or species habitat likely to occur within area |
| <a href="#">Parthenium hysterophorus</a><br>Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]  |  | Species or species habitat likely to occur within area |

## Coordinates

-21.85189 147.09199,-21.94181 147.10447,-21.9904 147.09093,-22.03094 147.11378,

-22.05667 147.0863,-22.11979 147.04828,-22.18737 146.98666,-22.37488 146.86919,  
-22.5259 146.79878,-22.61374 146.69335,-22.79456 146.57363,-22.88748 146.53151,  
-22.9438 146.53182,-22.97202 146.55834,-22.99313 146.5984,-23.01364 146.60819,-23.1661  
146.61147,-23.19673 146.61734,-23.29129 146.60624,-23.34035 146.54747,-23.34364  
146.52557

## Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

## Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)

- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [-State Forests of NSW](#)
- Other groups and individuals

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Please feel free to provide feedback via the [Contact Us](#) page.

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