



Goonyella Rail Corridor Realignment Project

Baseline Ecological Values Report

PREPARED FOR



DATE
17 April 2025

REFERENCE
0746366



DOCUMENT DETAILS

DOCUMENT TITLE	Goonyella Rail Corridor Realignment Project
DOCUMENT SUBTITLE	Baseline Ecological Values Report
PROJECT NUMBER	0746366
DATE	17 April 2025
VERSION	FINAL
AUTHOR	Shenna van Melick
CLIENT NAME	Anglo Coal (Moranbah North Management) Pty Limited

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
Final	1.0	Shenna van Melick	Matt Davis, Josh Maunder	David Dique	30.08.24	For Client issue
Final	2.0	Shenna van Melick	Matt Davis, Josh Maunder	Charissa Tomlin	17.04.2025	Amended to reflect DCCEEW comments

SIGNATURE PAGE

Goonyella Rail Corridor Realignment Project

Baseline Ecological Values Report

0746366



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ACRONYMS AND ABBREVIATIONS

Acronym	Description
Anglo Coal	Anglo Coal (Moranbah North Management) Pty Limited
ALA	Atlas of Living Australia
DBH	Diameter at breast height
DAF	Department of Agriculture and Fisheries
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DRDMW	Department of Regional Development, Manufacturing and Water
DoEE	Department of Environment and Energy
DES	Department of Environment and Science
DESI	Department of Environment, Science and Innovation
DEWHA	Department of the Environment, Water, Heritage and the Arts
DoR	Department of Resources
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities
EPBC Act	<i>Environment Protection Biodiversity Conservation Act 1999</i>
EP Act	<i>Environmental Protection Act 1994</i>
ERM	Environmental Resources Management Australia Pty Ltd
ESA	Environmentally Sensitive Areas
Fisheries Act	<i>Fisheries Act 1994</i>
GDE	Groundwater Dependent Ecosystems
IBRA	Interim Biogeographic Regionalisation for Australia
LIKT	Locally Important Koala Tree
LoO	Likelihood of Occurrence
Ma	Marine
Mi	Migratory
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NC Act	<i>Nature Conservation Act 1992</i>
PMST	Protected Matters Search Tool

Acronym	Description
RE	Regional Ecosystem
SPP	State Planning Policy
SPRAT	Species Profile and Threats
TEC	Threatened Ecological Community
VM Act	<i>Vegetation Management Act 1999</i>
Water Act	<i>Water Act 2000</i>

EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned by Anglo Coal (Moranbah North Management) Pty Limited (Anglo Coal) prepare a Baseline Ecological Values Report for terrestrial ecology matters relevant to a portion of the Goonyella Rail Corridor which interests the Moranbah North Mine and Grosvenor Mine, respectively.

The purpose of this Baseline Ecological Values Report is to document the ecological Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES) located within the Goonyella Rail Corridor realignment, including listed species and communities identified through desktop assessment and ground truthed ecological survey efforts.

Desktop assessments were undertaken using a variety of Commonwealth and State sources, including but not limited to, Protected Matters Search Tool (PMST), WildNet records, Atlas of Living Australia (ALA) records, species conservation advice and previous reporting. The desktop assessment informed the Likelihood of Occurrence (LoO) of threatened species and ecological communities, which was used to develop targeted field survey methodologies for field surveys.

A total of five field surveys were undertaken during the post-dry season (September – December 2023) and post wet season (February – April 2024). Extensive targeted field surveys were undertaken across the Moranbah North Mine and Grosvenor Mine to identify the presence and habitat quality of MNES and MSES. The field survey effort for the Goonyella Rail Corridor has been extracted from those extensive surveys undertaken over both Moranbah North Mine and Grosvenor Mine.

All field surveys were conducted in accordance with the relevant Commonwealth and State survey guidelines. Field surveys included vegetation assessments, in the form of BioCondition assessments and quaternary assessment; as well as targeted searches and habitat assessments, with a particular focus on species-specific habitat requirements.

The information gathered from the field surveys informs this Report and habitat mapping prepared for the Goonyella Rail Corridor. Habitat mapping has been refined based on specific habitat attributed relevant for each threatened species (i.e., diameter of tree, tree density, proximity to waterbodies etc.) within the Central Queensland region.

The Goonyella Rail Corridor contains 12 Broad Habitat Types, of which six contained remnant vegetation and/or other specific habitat features for conservation significant species whilst six were categorised as regrowth vegetation, cleared land or existing mining works areas. Broad Habitat Types that have been assessed as containing remnant vegetation or specific important habitat elements for significant species include:

- acacia woodland (48.3 ha);
- brigalow (*Acacia harpophylla*) woodland (85.2 ha);
- eucalyptus and corymbia woodland (205.7 ha);
- eucalyptus woodland associated with ephemeral streams and watercourses (75.4 ha);
- eucalyptus woodland dominated by poplar box (*Eucalyptus populnea*) (717.1 ha); and
- waterbodies and drainage features (1.3 ha).

Broad Habitat Types with lower ecological value, include regrowth habitat and existing work areas:

- acacia regrowth (16.1 ha);
- cleared agricultural land (203.3 ha);
- cleared land with occasional regrowth (301.3 ha);
- mixed eucalyptus regrowth (50.7 ha);
- dieback (30.9 ha); and
- work areas (515.6 ha).

In total, the field surveys confirmed the presence of one Threatened Ecological Community (TEC), and two threatened fauna species. The field surveys confirmed the following TEC and species to occur:

- brigalow (*Acacia harpophylla* dominant and co-dominant) TEC – listed as Endangered under the EPBC Act (85.2 ha);
- greater glider (southern and central) (*Petauroides volans*) – listed as Endangered under the EPBC Act (42.2 ha of breeding habitat and 55.1 ha of foraging and dispersal habitat); and
- squatter pigeon (southern) (*Geophaps scripta scripta*) – listed as Vulnerable under the EPBC Act (22.8 ha of breeding habitat and 1,046.5 ha of foraging and dispersal habitat).

The following threatened and migratory species under the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act) and Special Least Concern species under the *Nature Conservation Act 1992* (NC Act) were not recorded during the field surveys, however, are assessed as likely to occur:

- glossy ibis (*Plegadis falcinellus*) – listed as Migratory under the EPBC Act (0.9 ha preferred habitat and 73.8 ha marginal habitat);
- fork-tailed swift (*Apus pacificus*) – listed as Migratory and Marine under the EPBC Act (may occur over entire area and therefore, no habitat is mapped);
- koala (*Phascolarctos cinereus*) – listed as Endangered under the EPBC Act (75.4 ha of breeding and foraging habitat and 973.6 ha of dispersal habitat);
- ornamental snake (*Denisonia maculata*) – listed as Vulnerable under the EPBC Act (16.3 ha); and
- short-beaked echidna (*Tachyglossus aculeatus*) – listed as Special Least Concern under the NC Act (1,823.5 ha).

Additionally, one threatened fauna species has the potential to occur:

- Australian painted snipe (*Rostratula australis*) – listed as Endangered under the EPBC Act (73.8 ha).

Additionally, the Goonyella Rail Corridor contains eight field verified Regional Ecosystems (REs), including one listed as Endangered and one listed as Least Concern under the VM Act. Additionally, essential habitat, regulated vegetation (defined watercourses), regulated vegetation (100 m form wetland), and Category B – Endangered or Of Concern and Category R – GBR riverine ESAs are present.

1. INTRODUCTION

Anglo Coal (Moranbah North Management) Pty Limited (Anglo Coal) are proposing to realign part of the Goonyella Rail Corridor (the Project) located within the bounds of the Grosvenor Mine and Moranbah North Mine respectively. The Goonyella Rail Corridor is located approximately 15 km north of the Moranbah township, and encompasses eight land parcel, covering an area of 2,340.4 ha (the Project area) (refer to Section 1.2 for a detailed description).

Anglo Coal has engaged Environmental Resources Management Australia Pty Ltd (ERM) to prepare a Baseline Ecological Values Report (the Report) which maps MNES and MSES relevant to the Project. The purpose of the Report is to provide contemporaneous MNES and MSES mapping which supports operational requirements and future approval applications.

1.1 OBJECTIVES

The objective of the Report is to provide for the identification and description of MNES and MSES within the Project area, as identified and validated through desktop assessment and ground truthed ecological surveys, as follows:

- present the results of the EPBC Act Protected Matters Search Tool (PMST) (Appendix A), WildNet and other relevant desktop sources to identify MNES and MSES known, likely, or potentially occurring within the Goonyella Rail Corridor to inform field survey planning;
- identify the Likelihood of Occurrence (LoO) (known, likely or potential) of listed threatened species and their associated habitat, based on desktop assessments of the PMST and other information and ground-truthing results (Appendix B);
- describe the ecological values as relevant to the MNES and MSES;
- develop and describe habitat mapping rules for all ecologically significant flora and fauna, including MNES and MSES, to inform habitat suitability;
- describe and map ecologically significant flora and fauna habitats, including MNES and MSES, based on desktop and field collected information;
- assess the quality and importance of known or potential habitat for MNES and MSES;
- evaluate the ecological significance (values and constraints);
- document the distribution, ecology and habitat of the MNES and MSES; and
- provide contemporaneous MNES and MSES mapping which supports operational requirements and future approval applications.

1.2 GOONYELLA RAIL CORRIDOR REALIGNMENT CONTEXT

The Project area is located within the Isaac Regional Council area, approximately 15 km north of the Moranbah township, 150 km south-west of Mackay and a 790 km north, north-west of Brisbane in Central Queensland (refer to Figure 1-1).

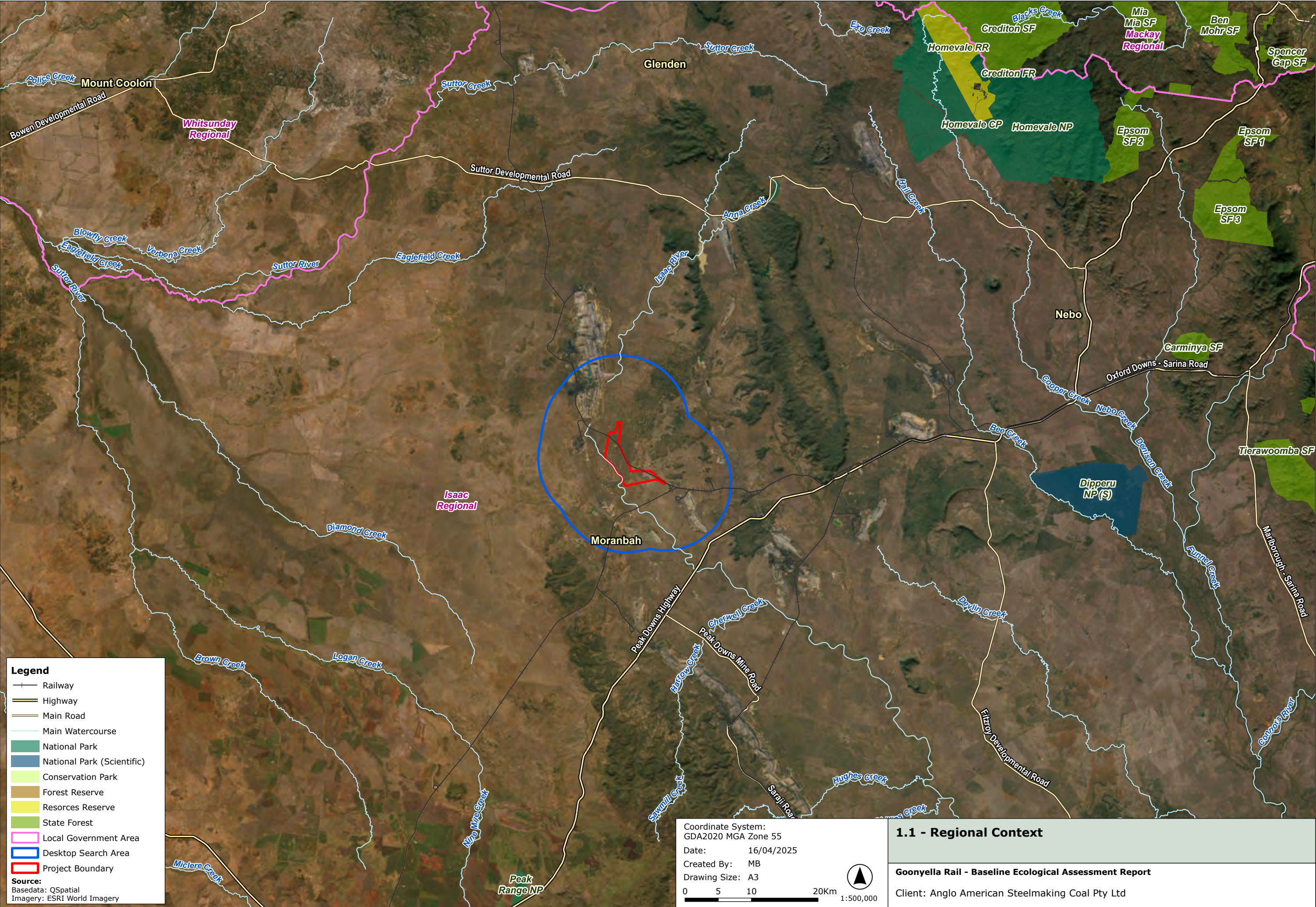
The Project area is surrounded by the Moranbah North Mine and low-intensity cattle grazing land to the east and west, the Moranbah township to the south and the Grosvenor Coal Mine to the south.

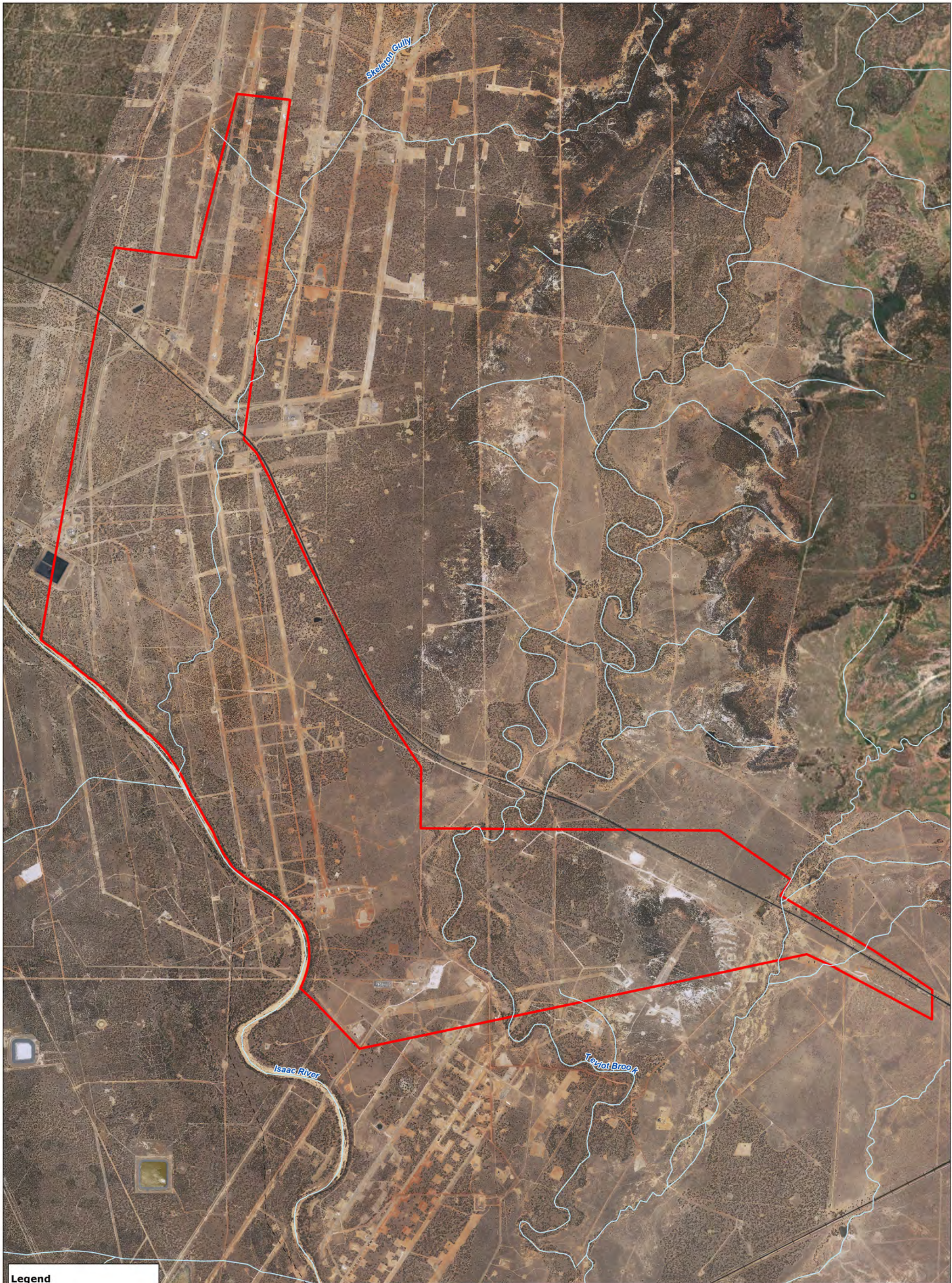
The Project area covers an area of 2,340.4 ha covering eight land parcels (refer to Table 1-1) and is intersected by Skeleton Gully and the Teviot Brook (refer to Figure 1-2).

TABLE 1-1: LAND PARCELS

Real Property Description	Tenure	Lot Area (ha)	Ownership
Lot 3 on CP907954	Land lease	128.2	Moranbah North Coal Pty Ltd
Lot 2 on GV69	Land lease	20.42	Department of Transport and Main Roads
Lot 19 on SP308954	Freehold	1,458.8	Moranbah North Coal Pty Ltd
Lot 15 on SP308954	Freehold	58.2	Ross Willian Flohr
Lot 117 on SP259137	Land lease	1.0	Queensland Department of Transport and Main Roads
Lot 114 on SP259137	Land lease	< 0.1	Queensland Department of Transport and Main Roads
Lot 16 on SP261431	Freehold	655	Moranbah North Coal Pty Ltd

Table note: It should be noted that the calculations in Table 1-1 do not include easements.





Legend

- Railway
- - - Unconstructed Road
- VMA Watercourse
- ▭ Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55
Date: 22/08/2024
Created By: MB
Drawing Size: A3
0 0.5 1Km



1.2 - Localised Context

Goonyella Rail - Baseline Ecological Assessment Report
Client: Anglo American Steelmaking Coal Pty Ltd



2. LEGISLATIVE AND POLICY CONTEXT

This Report has been prepared with consideration of the Commonwealth and State Legislation and Policies, as outlined in Table 2-1.

TABLE 2-1: LEGISLATIVE AND POLICY CONTEXT

Act / Policy	Administering Authority	Purpose
Commonwealth Legislation		
EPBC Act	Department of Climate Change, Energy, the Environment and Water (DCCEEW)	<p>The EPBC Act administers the protection of the environment and MNES within Australia, which are:</p> <ul style="list-style-type: none"> • world heritage properties; • national heritage properties; • wetlands of international importance; • threatened species and ecological communities; • migratory species; • commonwealth marine areas; • the Great Barrier Reef marine park; • nuclear Actions (including Uranium mines); and • water resources that relate to coal seam gas development and large coal mining development. <p>The desktop assessments and ecological field surveys were undertaken to identify the potential presence of MNES TECs, threatened species and migratory species and assessed these into 'known to occur', 'likely to occur' and 'potential to occur' categories.</p>
EPBC Act Environmental Offsets Policy 2012 (Environmental Offsets Policy)	DCCEEW	<p>The Environmental Offsets Policy comes into effect where there is a significant residual impact on an identified MNES value. The policy provides guidance on the role of offsets and when a proposed offset is considered suitable.</p>
State Legislation		
Environmental Offsets Framework (<i>Environmental Offsets Act 2014</i> and Regulation, Environmental Offsets Policy Version 1.7)	Department of Environment, Science and Innovation (DESI)	<p>An environmental offset condition may be imposed under various State assessment frameworks for an activity that will or is likely to have a significant residual impact on a prescribed environmental matter that is a MSES. There is a guideline to assist in determining whether or not a significant residual impact is likely.</p> <p>MSES are a component of the biodiversity State interest that is defined under the State Planning Policy (SPP) and defined under the Environmental Offsets Regulation 2014 (Offset Regulation). MSES includes certain environmental values that are protected under Queensland legislation including the:</p> <ul style="list-style-type: none"> • <i>Nature Conservation Act 1992</i>; • <i>Marine Parks Act 2004</i>; • <i>Fisheries Act 1994</i>; • <i>Environmental Protection Act 1994</i>; • <i>Regional Interests Planning Act 2014</i>;

Act / Policy	Administering Authority	Purpose
		<ul style="list-style-type: none"> • <i>Vegetation Management Act 1999</i>; and • <i>Environmental Offsets Act 2014</i>.
<i>Biosecurity Act 2014</i> (and Regulation)	Department of Agriculture and Fisheries (DAF)	The Biosecurity Act provides for the management of biosecurity risks in Queensland. The Act provides measures to safeguard Queensland economy, environment, agricultural and tourism industries, and way of life from pests, diseases, and contaminants. Restricted matters are assigned a category (or categories) from 1 to 7, with each category placing restrictions on the dealings with the matter.
<i>Environmental Protection Act 1994</i> (EP Act)	DESI	<p>Environmental Authority applications for coal mining activities are assessed under the EP Act, which considers the impact of environmental values, including biodiversity values. Environmentally Sensitive Areas (ESA) are listed under the subordinate Environmental Protection Regulation 2008, and include three categories (i.e., Categories A, B and C) to reflect the hierarchy of nature conservation importance.</p> <p>The EA Application Requirements for coal mining Activities (Department of Environment and Heritage Protection [DEHP], 2013) provides for protection zones around ESAs i.e.:</p> <ul style="list-style-type: none"> • primary Protection Zone - an area within 200 m of the boundary of a Cat A, B or C ESA; and • secondary Protection Zone - an area within 100 m of the boundary of a Cat A or B ESA. <p>The MSES assessment identifies the biodiversity values and the impacts on biodiversity values.</p>
<i>Fisheries Act 1994</i> (Fisheries Act)	DAF	The Fisheries Act provides the principal legislative framework for the regulation around fishing activities and areas that are fish habitat within a given area. It outlines how activities are to be conducted given the importance of the habitat for fish. All waters are protected against degradation by direct or indirect impacts associated with development activities. Measures designed to protect fisheries resources include the declaration of fish habitat areas, protection of marine plants and designation of waterways for fish passage. A waterway barrier works permit may be required if works do not comply with the <i>Accepted development requirements for operational work that is constructing or raising waterway barrier works</i> .
<i>Nature Conservation Act 1992</i> (NC Act)	DESI	The NC Act and Regulations provides a framework for the creation and management of protected areas and protection of native species. It includes designation of threatened species status and provides for protected plant trigger areas.
<i>Vegetation Management Act 1999</i> (VM Act)	DoR	The VM Act is the regulatory framework for the management of vegetation using the RE classification system.

Act / Policy	Administering Authority	Purpose
		It regulates the broad scale clearing of vegetation, with the intent of conserving remnant vegetation, preventing the loss of biodiversity, maintaining ecological processes, and allowing for sustainable use. There are clearing exemptions for some work activities.
<i>Water Act 2000</i> (Water Act)	Department of Regional Development, Manufacturing and Water (DRDMW)	The Water Act provides the framework for the planning and sustainable use and management of groundwater and surface water in Queensland. It also sets up conditions and controls the activities that may impact on water resources and quality. The Department of Resources Watercourse Identification Map identifies watercourses and drainage features mapped under the Water Act.

3. ASSESSMENT METHODS

3.1 OVERVIEW

This section outlines the desktop review and field assessment methods used to identify the ecological values relevant to MNES and MSES within the Project area.

3.2 DESKTOP REVIEW

A desktop assessment was undertaken to identify and understand the ecological values that have the potential to be present within the Project area and a 10 km buffer. The desktop assessment included a review of Commonwealth, State, and public information sources as outlined in Table 3-1.

TABLE 3-1: RELEVANT DESKTOP SOURCES

Information Source	Name	Data Description
DCCEEW	Protected Matters Search Tool	<p>The PMST database provides predictive results of MNES occurrence within the Project area and a 10 km buffer area.</p> <p>The database predicts species occurrence based on species modelled distribution mapping, habitat requirements and presence, ecological communities, and wetlands.</p> <p>The outputs are based on modelling results and do not necessarily reflect known records of species or communities. The PMST results are provided in Appendix A. The features highlighted by the search are considered further through a Likelihood of Occurrence (LoO) assessment (refer to Appendix B for the full LoO).</p> <p>Search Date: 15 August 2024 Search Area: .shp file of the Project boundary inclusive of 10 km buffer area.</p>
Ala.org.au	Atlas of Living Australia	<p>Atlas of Living Australia is an interactive, spatial Australian national biodiversity database (supported by the National Collaborative Research Infrastructure Strategy, CSIRO), containing publicly available species records. All species in the LoO assessment were entered into this database to identify any known records either within the Project area or the buffer zone.</p> <p>Search Date: 15 August 2024 Search Area: .shp file of the Project boundary inclusive of 10 km buffer area.</p>
DoR	Queensland Globe	<p>Queensland Globe is a mapping and data online interactive tool, to explore Queensland maps, imagery and other spatial data (Ecological, Geological, Planning and etc). The Globe is built on ArcGIS Platform.</p>
DCCEEW	Species Profile and Threats Database (SPRAT)	<p>The SPRAT profiles and associated conservation advice for each species were accessed to provide detailed information for the LoO assessment, regarding:</p> <ul style="list-style-type: none"> species distributions; habitat information, including species-specific habitat requirements; and

Information Source	Name	Data Description
		<ul style="list-style-type: none"> any relevant threats to species that may influence species occurrence in ML700042. <p>The conservation advice documents are particularly important for assessing TECs found in field surveys, against the listed TEC guidelines.</p> <p>SPRAT Profiles and conservation advice were accessed during the LoO assessment, which was finalised on 15 August 2024.</p>
DESI	Wildlife Online	<p>Wildlife Online is a database containing records of wildlife sightings, including threatened species protected under the EPBC Act and NC Act, which are provided to the agency by Government departments and external organisations. The outputs of the Wildlife Online results can be found in Appendix C.</p> <p>Search Date: 8 January 2025 Search Area: .shp file of the Project boundary inclusive of 10 km buffer area.</p>
DESI	MSES reports	<p>The MSES reports generated by DESI provide an overview of MSES, including regulated vegetation and REs, watercourses and wetlands, wildlife habitats, environmentally sensitive areas, and connectivity areas etc.</p> <p>Search Date: 15 August 2024 Search Area: .shp file of the Project boundary.</p>
DESI	Protected Plants	<p>The Protected Plants survey trigger map identifies high-risk areas where Endangered, Vulnerable, or Near Threatened native plants are present or are likely to be present within the assigned area.</p> <p>Search Date: 8 January 2025 Search Area: .shp file of the Project boundary.</p>
Department of Resources (DoR)	RE Version 13 mapping	<p>This product maps remnant and regrowth vegetation communities across Queensland and identifies communities listed as Endangered, Of Concern or Least Concern status as defined by the VM Act.</p> <p>Search Date: 15 August 2024 Search Area: .shp file of the Project boundary.</p>

3.3 LIKELIHOOD OF OCCURRENCE

Consistent with the accepted approach for baseline ecological value assessments, a preliminary LoO, informed by desktop sources was undertaken. The preliminary LoO assessment was subsequently updated as a result of field surveys and is presented as the final LoO Assessment (Appendix B).

Desktop sources identified a number of fauna, flora and ecological communities listed under Commonwealth and State Legislation which have been recorded previously or are predicted to occur within an approximately 10 km buffer. The 10 km buffer zone, inclusive of the Project area is hereby referred to as the 'Locality'.

The LoO approach refines the desktop generated list using site-specific information and species-specific habitat information obtained from field surveys. Desktop sources are indicative only and likelihood rankings, particularly in regard to the presence of preferred habitat, are conservative.

The assessment ranks the likelihood of the species occurring through analysis of species distribution information and the presence of specific habitat attributes as identified through the desktop analysis and field survey. The criteria applied are outlined in Table 3-2.

According to the MNES terminology, suitable habitat are areas or a location which has the potential to provide necessary resources needed for the maintenance of a population. This can include breeding, nesting and foraging habitat features or food resources. General habitat are areas that also could have been used transiently by a species.

Habitat and distribution information for MNES is sourced from the SPRAT database and/or Conservation Advice where available, supplemented by other primary sources (e.g., published literature). Species records were sourced from WildNet and/or ALA. Where a species' presence cannot be discounted, they are categorised as having the potential to occur.

Recent records within the locality are defined as less than 15 years.

TABLE 3-2: LIKELIHOOD OF OCCURRENCE CRITERIA

	Preferred habitat exists	General habitat exists²	Habitat does not exist³
Records within Goonyella Rail Corridor	Known	Known	Known
Records within the Locality	Likely	Potential	Unlikely
No records within the Locality, but Goonyella Rail Corridor is within known distribution	Potential	Unlikely	Unlikely
No records in the Locality, and the Goonyella Rail Corridor is outside of distribution	Unlikely	Unlikely	Unlikely

1. Records are those that have been recorded in the last 15 years.
2. Habitat may be considered general, but not preferred because: some desired habitat features may be present, but not all; habitat may have poor connectivity; or habitat may be known to be disturbed.
3. Based on sources reviewed and/or field survey results.
4. 'Locality' refers to a 10 km buffer inclusive of and around the Goonyella Rail Corridor.

3.4 FIELD SURVEYS

3.4.1 SURVEY GUIDELINES

The post dry and post wet season surveys were conducted in accordance with Commonwealth and State survey guidelines as listed in Table 3-3.

TABLE 3-3: SURVEY GUIDELINES RELEVANT TO FIELD INVESTIGATIONS

Source	Description
MNES Documents	
Department of Sustainability, Environment, water, Population and Communities (DSEWPC), 2011a.	<u>Survey Guidelines for Australia's Threatened Mammals (DSEWPC, 2011a).</u> The 'Survey Guidelines for Australia's Threatened Mammals' assist in determining the likelihood of a mammalian species presence or absence within a survey area, using species-specific survey methods. These guidelines are not mandatory; however, they have been prepared by expert sources and are helpful in determining the presence or absence of a species.
Department of the Environment, Water, Heritage and the Arts (DEWHA), 2010.	<u>Survey Guidelines for Australia's Threatened Birds (DEWHA, 2010).</u> The 'Survey Guidelines for Australia's Threatened Birds' assist in determining the likelihood of a bird species presence or absence within a survey area, using species-specific survey methods. These guidelines are not mandatory; however, they have been prepared by expert sources and are helpful in determining the presence or absence of a species.
DSEWPC, 2011b.	<u>Survey Guidelines for Australia's Threatened Reptiles (DSEWPC, 2011b).</u> The 'Survey Guidelines for Australia's Threatened Reptiles' assist in determining the likelihood of a reptilian species presence or absence within a survey area, using species-specific survey methods. These guidelines are not mandatory; however, they have been prepared by expert sources and are helpful in determining the presence or absence of a species.
Department of Environment and Energy (DEE), 2017.	<u>Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species.</u> The 'Industry guidelines for avoiding, assessing, and mitigating impacts on EPBC Act listed migratory shorebird species' applies to 37 migratory shorebirds that regularly visit Australia yearly and are listed as Migratory under the EPBC Act. The purpose of this policy statement is to assist proponents in avoiding, assessing, and mitigating significant impacts on migratory shorebirds listed under the EPBC Act. These guidelines detail survey timing, effort, coverage and minimum requirements.
DSEWPC, 2011c.	<u>Draft referral guidelines for nationally listed Brigalow Belt reptiles (DSEWPC, 2011c).</u> The 'Draft referral guidelines for nationally listed Brigalow Belt reptiles' applies to nine nationally listed reptiles of the Brigalow Belt, anywhere they may occur in Australia. These guidelines detail survey effort, technique, and considerations.
Birdlife Australia, 2015.	<u>Birdlife Australia Survey Techniques</u> Details bird survey techniques and suitability of each technique to the intended outcome.
MSES Documents	
Eyre et al., 2015.	<u>BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland Assessment Manual</u> A manual designed for use to assess biological and ecological conditions of different mapped REs within a determined area.
Neldner et al., 2022.	<u>Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland Version 6.0.</u> The manual provides:

Source	Description
	<ul style="list-style-type: none"> specific procedures for REs and vegetation survey and mapping staff from the Queensland Herbarium; and general guidelines for other individuals or organisations carrying out similar mapping.
Department of Environment and Science (DES), 2020.	<p><u>Guide to determining terrestrial habitat quality: Methods for assessing habitat quality under the Queensland Environmental Offsets Policy</u></p> <p>This guide provides methods for undertaking habitat quality assessments required under the Queensland Environmental Offsets Framework for the following prescribed environmental matter groups:</p> <ul style="list-style-type: none"> prescribed REs; terrestrial fauna habitat, including koala habitat outside of South-East Queensland; and a koala habitat area in South-East Queensland.
Eyre et al., 2022.	<p><u>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (Eyre et al., 2022).</u></p> <p>The 'Terrestrial Vertebrate Fauna Survey Guideline for Queensland' outlines the minimum survey requirements, survey standards and appropriate practice for the survey of terrestrial vertebrate fauna in Queensland. This guideline specifically notes two survey events, spring to early summer (September – mid November); and autumn (March – mid May), are to be conducted within the Brigalow Belt Bioregion to achieve adequacy.</p>
DES, 2020a.	<p><u>Flora Survey Guidelines – Protected Plants NC Act (Flora Survey Guidelines) (DES, 2020a).</u></p> <p>The purpose of this guideline is to detail the requirements of the flora survey guideline regarding:</p> <ul style="list-style-type: none"> who is suitably qualified to undertake a flora survey; the extent of the area that must be surveyed; what flora survey methods must be used; and what must be included in a flora survey report.

3.4.2 SURVEY TECHNIQUES

Based on an assessment of target species considered to potentially occur in the Project area (as per the LoO assessment), a field survey plan was developed to meet required effort and seasonality requirements as defined in relevant Queensland and Commonwealth guidelines. Twelve survey techniques were employed, based on the survey guidelines listed in Table 3-3. Field survey timing, techniques and survey effort are provided in Table 3-4. The location of surveys undertaken over the five survey periods are shown in Figure 3-1 (flora) and Figure 3-2 (fauna).

Five field surveys were completed over the Moranbah North Mine and Grosvenor Mine respectively from November 2023 to April 2024. The field survey effort for the Project area have been extracted from the surveys undertaken. A summary of the field survey effort within the Project area is provided below:

- five ecologists undertook a 10-day ecological survey from 4 – 15 September 2023 (excluding two weekend days), with a total of 340 person hours on the ground. The surveys involve completing vegetation assessments, RE and TEC ground truthing and

- validation, habitat assessments, targeted threatened species surveys, spotlighting, call playback, deploying camera traps and Anabats, and bird surveys;
- four ecologists undertook a 10-day ecological survey from 27 November – 8 December 2023, with a total of 336 person hours on the ground. The surveys involved completing vegetation assessments, RE and TEC ground truthing and validation, habitat assessments, targeted threatened species surveys, spotlighting, and bird surveys;
 - four ecologists undertook a 10-day ecological survey from 26 February – 8 March 2024 (excluding two weekend days), with a total of 400 person hours on the ground. The surveys involve completing vegetation assessments, RE and TEC ground truthing and validation, habitat assessments, targeted threatened species surveys, spotlighting, call playback, deploying camera traps and Anabats, and bird surveys;
 - three ecologists undertook a five-day aquatic ecological survey from 18 – 22 March 2024, with a total 150 person hours on the ground. The surveys involve completing habitat assessments, macroinvertebrate assessments, water quality and wetland assessments, and fish and turtle surveys; and
 - three ecologists undertook a four-day ecological survey from 2 March – 5 April 2024, with a total of 120 person hours on the ground. The surveys involve completing vegetation assessments, habitat assessments and spotlighting.

Oversight, guidance and technical review for each field investigation have been undertaken by Dr David Dique, a 25-year experienced ecologist. Vegetation assessments, including ground-truthing and mapping of TECs, were led by Jye Dalton and Joey Shanahan, both experienced botanists / ecologists and vegetation specialists. Additional technical review of fieldwork has been completed by Matt Davis, an ecologist with 15 years' experience in ecological field surveys and environment impact assessments.

The following sections describe the field investigation techniques undertaken.

TABLE 3-4: TERRESTRIAL FIELD SURVEY EFFORT

Dates	Target	Techniques	Survey Effort
POST DRY SEASON			
4 – 15 September 2023	Vegetation Assessments	<ul style="list-style-type: none"> • QLD quaternary assessments. 	<ul style="list-style-type: none"> • 3 individual survey locations
	TEC field verification	<ul style="list-style-type: none"> • Review of vegetation community mapping against the TEC thresholds and criteria • Verifying if areas mapped as potential TEC conform to the TEC thresholds 	<ul style="list-style-type: none"> • Survey undertaken at each potential TEC location
	Fauna habitat features	<ul style="list-style-type: none"> • Habitat quality assessment. 	<ul style="list-style-type: none"> • 7 individual survey locations
	Targeted species searches	<ul style="list-style-type: none"> • reptile searches • bird surveys • bat surveys • camera trapping • koala sat 	<ul style="list-style-type: none"> • General meander searches for targeted species took place at habitat and vegetation assessments • 2 individual bird survey locations

Dates	Target	Techniques	Survey Effort
		<ul style="list-style-type: none"> spotlighting call playback Opportunistic surveys for fauna species while driving and walking 	<ul style="list-style-type: none"> 1 Anabat devices recording for 4 consecutive nights 1 baited camera trap for 4 consecutive trap nights 4 individual koala SAT locations 1 individual location for call playback for koala in suitable habitat. Spotlighting – one team of two people surveying for two hours across three nights; and Spotlighting – two teams of two people surveying for two hours in one night (totalling in 12 person hours)
27 November – 8 December 2023	Vegetation Assessments	<ul style="list-style-type: none"> BioCondition assessments QLD quaternary assessments 	<ul style="list-style-type: none"> 5 individual BioCondition assessment survey locations 2 individual quaternary assessment survey locations
	TEC field verification	<ul style="list-style-type: none"> Review of vegetation community mapping against the TEC thresholds and criteria Verifying if areas mapped as potential TEC conform to the TEC thresholds 	<ul style="list-style-type: none"> Undertaken at each potential TEC location
	Fauna habitat features	<ul style="list-style-type: none"> Habitat quality assessments (including koala SATs) 	<ul style="list-style-type: none"> 4 individual survey locations
	Targeted species searches	<ul style="list-style-type: none"> Reptile searches Bird surveys Opportunistic surveys for fauna species while driving and walking 	<ul style="list-style-type: none"> General meander searches for targeted species took place at habitat and vegetation assessments 1 individual bird survey locations
POST WET SEASON			
26 February – 8 March 2024	Vegetation Assessments	<ul style="list-style-type: none"> BioCondition assessments QLD quaternary assessments 	<ul style="list-style-type: none"> 2 individual quaternary assessment survey locations 2 individual BioCondition assessment survey locations
	TEC field verification	<ul style="list-style-type: none"> review of vegetation community mapping against the TEC thresholds and criterion verifying if areas mapped as potential TEC conform to the TEC thresholds 	<ul style="list-style-type: none"> Surveys undertaken at each potential TEC location

Dates	Target	Techniques	Survey Effort
	Fauna habitat features	<ul style="list-style-type: none"> habitat quality assessments 	<ul style="list-style-type: none"> 2 individual survey locations
	Targeted species searches	<ul style="list-style-type: none"> reptile searches bird surveys bat surveys spotlighting koala sat 	<ul style="list-style-type: none"> General meander searches for targeted species took place at habitat and vegetation assessments 1 individual bird survey location 1 Anabat devices recording for 7 consecutive nights 4 baited camera traps for 7 consecutive trap nights each 1 individual location for call playback for koala in suitable habitat 1 individual koala SAT location
18 – 22 March 2024	Aquatic ecology	<ul style="list-style-type: none"> wetland assessments historical Receiving Environment Monitoring Program (REMP) / aquatic surveys 	<ul style="list-style-type: none"> 1 individual wetland assessment location 1 individual REMP survey location
2 – 5 April 2024	Vegetation Assessments	<ul style="list-style-type: none"> QLD quaternary assessments 	<ul style="list-style-type: none"> 13 individual survey locations
	Habitat quality assessments	<ul style="list-style-type: none"> Habitat quality assessments 	<ul style="list-style-type: none"> 10 individual survey locations
	Targeted species searches	<ul style="list-style-type: none"> Spotlighting 	<ul style="list-style-type: none"> Spotlighting on Moranbah North Mine, adjacent to the Goonyella Rail Corridor – 1 team of 3 people surveying for 3 hours across 2 nights

3.4.2.1 VEGETATION AND HABITAT ASSESSMENTS

Vegetation communities and habitats were assessed using four survey types:

- BioCondition assessments;
- QLD quaternary assessments;
- targeted flora surveys; and
- habitat quality assessments.

BioCondition Assessments

BioCondition assessments are carried out within a 100m x 50m area and include measurement and recording of the following ecological characteristics (see Appendix D for raw data sheets):

- habitat description;
- mapped REs;
- tree canopy and sub-canopy height;
- coarse woody debris (length and diameter);
- species richness for: tree and sub-canopy layer, shrub layer, grass layer, and forb layer;

- proportion of dominant canopy species with evidence of recruitment;
- proportion of non-native plant cover;
- ground cover details (i.e., native perennial grass, non-native grass, rock etc.); and
- number of large eucalyptus and non-eucalyptus trees.

QLD Quaternary Assessments

Quaternary assessments were used to ground-truth state-mapped REs, thus assisting in determining the presence of vegetative MNES and MSES. The following parameters are assessed:

- landform and soil; and
- height and species in the following layers: emergent, tree, shrub, and ground cover.

Targeted Flora Surveys

Targeted flora surveys were conducted as general meanders during BioCondition assessments, quaternary assessments and habitat assessments. Additionally, general meanders occurred incidentally across the Project area.

Habitat Quality Assessments

Habitat quality assessments were carried out in line with *Guide to determining terrestrial habitat quality* (DES, 2017), to determine the occurrence of specific habitat types and features for threatened species in particular areas. Ecological and habitat features recorded as part of this assessment include:

- assessment of condition to determine if regrowth or remnant, as defined by the VM Act;
- connectivity attributes;
- slope and terrain;
- soil moisture and description (i.e., ground cover);
- food sources;
- signs of fauna (i.e., scats and scratches) and/or fauna breeding (i.e., bird nests or juvenile fauna);
- sheltering/breeding resources (i.e., woody debris, hollow logs, stags, rocky escapements);
- hollow presence, size, abundance and type (i.e., large hollows in live, mature trees over 80cm diameter and breast height (dbh));
- other microhabitat features (i.e., associated species, gilgai etc.);
- understorey density;
- canopy cover and strata height/s;
- leaf litter description;
- presence of disturbances (i.e., grazing, dogs, weeds, erosion, fire, dieback, pollution, light/noise);
- water and wetland features (i.e., proximity, type, flow, vegetation etc.); and
- bank features.

Habitat assessments targeted species-specific habitat requirements relevant to the known, likely and potentially occurring species (as per the LoO assessment). For example, habitat assessments focused on noting greater glider (southern and central) habitat through noting the number of live denning trees for every 2 ha of suitable habitat, DBH of trees, diameter of hollow entrances and tree species.

Habitat assessments for koala focused on connectivity of habitat areas, tree species and the number of tree species per area and the DBH of trees.

Habitat assessments for wading birds (including glossy ibis and Australian painted snipe) focused on presence of trees and shrubs near waterbodies, depth of water, presence of suitable grasses, and presence of bare mud.

Habitat assessments for squatter pigeon (southern) focused on the proximity to waterbodies, soils, vegetation consisting of *Eucalyptus* spp., *Corymbia* spp., *Acacia* spp. or *Callitris* spp.; as well as ground cover (i.e., extent and presence of leaf litter and coarse woody debris).

Habitat assessments for ornamental snake focused on the presence of gilgai and cracking soils within suitable REs, dominant vegetation communities, size of habitat patches and proximity to wetlands and lake margins.

3.4.2.2 VEGETATION COMMUNITY AND HABITAT MAPPING

Vegetation community and broad habitat type mapping is prepared based on the vegetation communities identified through desktop assessment and field surveys. Therefore, making MNES and MSES habitat mapped for the Report is reflective of ground-truthed conditions.

RE mapping prepared by the Queensland Herbarium is combined with results from previous ecological field assessments and used to delineate vegetation communities and habitats. The map of the Project area is then generated is then ground-truthed during the field surveys, taking note of boundaries and habitat features that are important for MNES and MSES.

3.4.2.3 TARGETED LISTED FLORA SPECIES SURVEYS

As per the desktop research undertaken in Table 3-1, flora species with potential to occur were identified. Species-specific characteristics, including growing season, flowering and fruiting season, habitat preferences and life form were compiled and reviewed to assist in understanding the appropriate survey methods, efforts, and survey timeframes.

Meander surveys, as recommended by DES (2020), were undertaken at the same time as habitat assessments within suitable flora habitat, defined in Commonwealth and State guidance. Meander surveys were conducted over a two-week period in both survey events (post dry season and post wet season). It should be noted that not all plant species (e.g., grasses) exhibit diagnostic features such as flower and fruit throughout the year.

3.4.2.4 TARGETED LISTED FAUNA SPECIES SURVEYS

As per the desktop research undertaken in Table 3-1, fauna species with potential to occur were identified. Species-specific characteristics field survey methods, effort, and timing.

A detailed description of the listed species targeted during the field surveys, their survey guideline requirements, as well as an assessment of survey effort against guideline

requirements, are listed in Table 3-9. The survey locations are presented in Figure 3-1 and Figure 3-2. Detail on specific methods is outlined below.

Terrestrial and Arboreal Mammal Surveys

Koala (*Phascolarctos cinereus*) and greater glider (southern and central) (*Petauroides volans*) were identified through the preliminary LoO with a known and potential occurrence within the Project area respectively. A targeted survey approach was implemented to assess the presence of these species in line with DSEWPC (2011a), Eyre et al. (2022) and Youngentob et al. (2021) as follows:

- koala:
 - strip transects which involve diurnal distance sampling and density searches;
 - nocturnal spotlighting for smaller sites to determine presence and density;
 - Spot Assessment Technique (SAT) which involves looking at the base of koala food trees for presence of koala scats and the trunks of smooth bark gums for koala scratches; and
 - call playback playing a downloaded koala call through a speaker for 3 minutes followed by listening for a response for three minutes and repeating this process for three times at each three unique call playback locations (prior to spotlighting).
- greater glider (southern and central):
 - two person, 30-minute spotlight searches of 100 x 100 m survey site; and
 - scat and sign search can coincide with the systematic diurnal active searches, within 50 x 50 m quadrats of the survey site.

Spotlighting surveys were conducted as follows:

- post dry season:
 - one team of two people surveying for two hours across three nights; and
 - two teams of two people surveying for two hours in one night (totalling in 12 person hours).
- post wet season:
 - spotlighting was conducted on Moranbah North Mine, adjacent to the Goonyella Rail Corridor by 1 team of 3 people surveying for 3 hours across 2 nights.

Areas chosen for spotlighting included suitable greater glider (southern and central) and koala habitat, defined in Commonwealth and State guidance, that was safely accessible by the ecologists.

Camera trapping was undertaken in areas of suitable habitat for nocturnal, terrestrial mammals. Camera traps were attached to trees or logs at suitable heights to detect the target species within that habitat type. A scented-lure bait of tuna, oats, honey and peanut butter was used to attract target species.

Reptile Surveys

The ornamental snake (*Denisonia maculata*) was identified in the preliminary LoO as likely to occur. A targeted survey approach for this and other threatened reptiles was implemented into the field survey programs based on the following DSEWPC (2011b) and DSEWPC (2011c).

Reptile searches were undertaken by searching under overturned rocks, behind bark, and through leaf litter. Reptile meanders were undertaken in conjunction with habitat assessments, at all habitat assessment locations within brigalow regrowth and brigalow woodland. Thus, a total of three reptile meanders were conducted, including two within mapped ornamental snake habitat. Reptile meanders were undertaken for a total 20 minutes each per habitat assessment location.

Spotlighting was undertaken throughout the Project Area and was conducted for ornamental snake by driving roads at night; however targeted spotlighting in brigalow habitats with gilgai was not undertaken in the Project Area, and the precautionary principle has been applied by mapping areas of potential habitat for listed threatened reptiles that are assessed as known, likely or potential to occur in these habitat types. Spotlighting within brigalow woodland with gilgai was not undertaken as gilgai was dry at the time of the survey, and as such, prey species (frogs) were not abundant and snake activity is assumed lower. Majority of vehicle spotlighting within the Project Area was undertaken in eucalypt woodland.

Bird Surveys

Numerous Commonwealth and State listed threatened and migratory bird species were identified as likely to occur or having potential to occur during desktop assessments. Bird surveys were performed to target listed threatened and migratory avian species in accordance with the DEWHA (2010) and Birdlife Australia (2015). Bird surveys involved area searches (500 m area search), point surveys and resource or habitat target searches (refer to Figure 3-1 and Figure 3-2) with the following information recorded:

- presence of listed threatened bird species;
- large numbers of any bird species; and
- habitats on or near the sampling areas (particularly looking for roosting and nesting sites).

Threatened and migratory birds identified in the LoO, of which some species have specific survey requirements. Therefore, in developing the field survey program, where necessary species-specific requirements as per DEWHA (2010) were considered during the survey methodology and effort design.

Bat Surveys

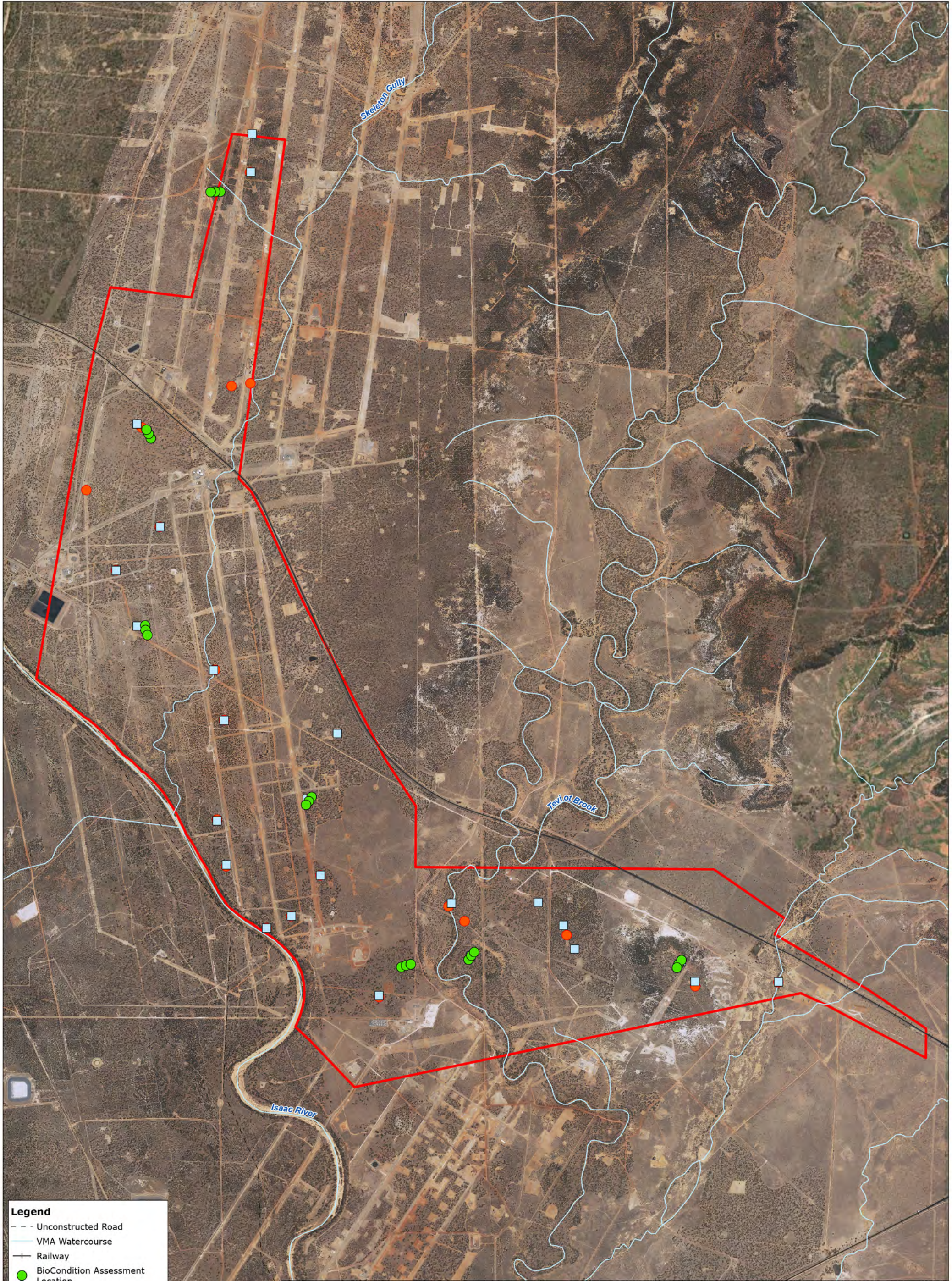
The Ghost Bat (*Macroderma gigas*) was identified in the preliminary LoO as having the potential to occur. A targeted survey approach for these species was implemented into the field survey programs based on DEWHA (2010).

The recommendations of survey effort and methods for bats is as follows:

- echolocation call detection to be carried out for a recommended 30-60 minutes per night for four to five survey nights; and
- that a variety of trapping and call detection methods are used together, where possible.

The assumptions and limitations of undertaking a LoO is that despite lack of records for a species, the species presence cannot be ruled out. Therefore, as a precautionary approach echolocation call detection surveys were conducted to determine the presence/absence of listed threatened bats within and surrounding the Project area.

Bat detectors (ANABATS) were placed in areas that were near potential flight paths; including water sources (i.e., creek lines, dams) and tracts of vegetation. The survey locations were selected on the basis that they provided the greatest likelihood of detecting an abundance and diversity of bat species. The bat detector locations are shown in Figure 3-1 and Figure 3-2.



Legend

- Unconstructed Road
- VMA Watercourse
- Railway
- BioCondition Assessment Location
- Habitat Assessment Location
- Quaternary Vegetation Assessment
- ▭ Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

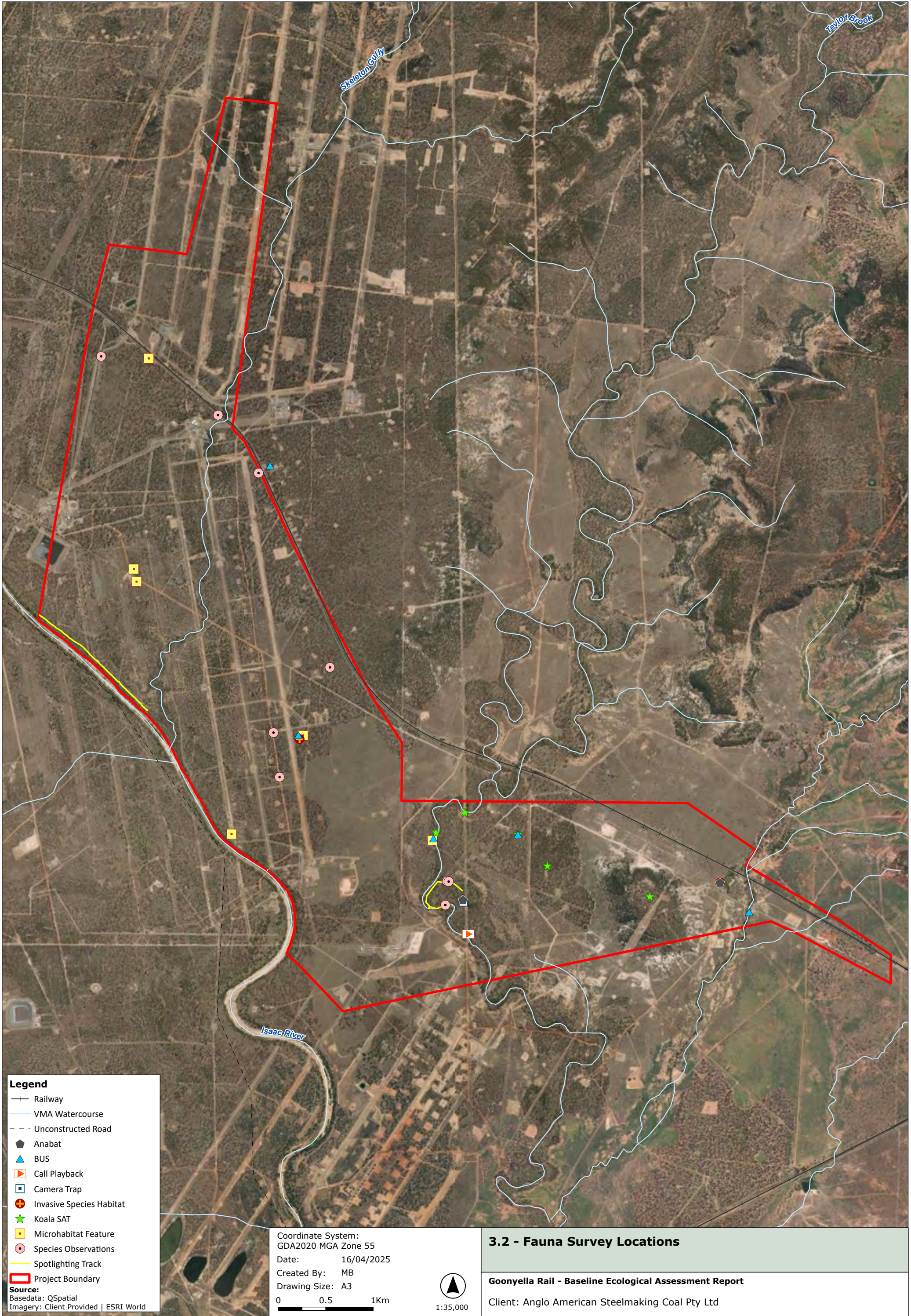
Coordinate System:
GDA2020 MGA Zone 55
Date: 22/08/2024
Created By: MB
Drawing Size: A3
0 0.5 1Km



3.1 - Flora Survey Locations

Gooniyella Rail - Baseline Ecological Assessment Report
Client: Anglo American Steelmaking Coal Pty Ltd





3.4.3 SURVEY CONDITIONS

September 2023

Survey conditions in September 2023 survey were consistent with the expected average September temperatures for the Moranbah Airport weather station. The daily survey conditions are presented in Table 3-5. The historical mean maximum temperature for September was 30°C, with the mean maximum temperature during the survey period of 30.9°C. Similarly, the historical mean minimum temperature for September and the mean minimum temperature during the survey period both equalled 12.7°C. Daily average temperatures during the survey was slightly higher than the average maximum temperatures, with maximum temperatures ranging from 30.9°C to 35°C throughout the survey period.

The historical mean rainfall during September was 15.7 mm. No rain was recorded during the dry season survey, with the exception of on 18 September 2023, when 1.2 mm of rain was recorded.

November/December 2023

Survey conditions for the November/December 2023 survey were consistent with the expected average November and early December temperatures for the Moranbah Airport weather station. The daily survey conditions are presented in Table 3-5. The historical mean maximum temperature for November is 34.5°C, with the mean maximum temperature during the survey period of 33.9°C. The historical mean minimum temperature for November in Moranbah is 18.9°C, however the mean minimum temperature during the survey period was slightly above the average temperature, with an average of 21.6°C recorded. The week 1 survey period in late November recorded the highest daily rainfall of the entire survey period, with the first two days recording 27.8 mm and 28 mm of rainfall.

The historical mean maximum temperature in Moranbah for December is 35°C, with the mean maximum temperature during the survey period recording 34.6°C. Similarly, the mean minimum temperature during the survey period (20.7°C) was in line with the historical mean minimum temperature for Moranbah (20.5°C). The week 2 survey period in December recorded 0.4 mm of rainfall.

February/March 2024

Survey conditions for the February/March 2024 survey were consistent with the expected average March temperatures for the Moranbah Airport weather station. The daily survey conditions are presented in Table 3-7. The historical mean maximum temperature for March was 32.8°C, with the mean maximum temperature during the survey period of 33°C. Similarly, the historical mean minimum temperature for March and the mean minimum temperature during the survey period both equalled 21.5°C. Daily average temperatures during the survey was slightly higher than the average maximum temperatures, with maximum temperatures ranging from 30.4°C to 34.5°C throughout the survey period.

The historical mean rainfall during March was 81.1 mm. No rain was recorded during the wet season survey, with the exception of on 4 March 2024, when 0.6 mm of rain was recorded.

April 2024

Survey conditions for the April 2024 survey were consistent with the expected average March / April temperatures for the Moranbah Airport weather station. The daily survey conditions are presented in Table 3-7.

The historical mean maximum temperature for April is 30.3°C, with the mean maximum temperature during the survey period of 31.8°C. Similarly, the historical mean minimum temperature for April is 16.9°C, with the mean minimum temperature during the survey period equalling 21.0°C. The historical mean rainfall during April is 27.3 mm. No rain was recorded during the post wet season survey, with the exception of on 5 April, when 0.6 mm of rain was recorded.

TABLE 3-5: DAILY WEATHER OBSERVATIONS AT MORANBAH AIRPORT WEATHER STATION FOR SEPTEMBER 2023

Date	Daily Temperature		Daily Rainfall	9:00 AM Observations				3:00 PM Observations			
	Min (°C)	Max (°C)	mm	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)
Week 1 Survey											
07/09/2023	11.9	30.9	0	21.9	68	E	19	29.2	38	NE	17
08/09/2023	16.9	33.5	0	24.9	67	E	17	32.5	27	SE	17
Week 2 Survey											
11/09/2023	11.3	28.3	0	20.8	57	ESE	26	27.2	24	E	20
12/09/2023	12.7	27.7	0	19.8	56	ESE	31	27.4	25	ESE	26
13/09/2023	11.7	28.3	0	21.2	53	E	24	27.4	23	ESE	28
14/09/2023	8.9	29.8	0	21.0	54	ENE	20	26.7	22	SE	26
15/09/2023	11.2	28.8	0	21.5	51	ESE	24	28.2	18	E	20

TABLE 3-6: DAILY WEATHER OBSERVATIONS AT MORANBAH AIRPORT WEATHER STATION FOR NOVEMBER/DECEMBER 2023

Date	Daily Temperature		Daily Rainfall	9:00 AM Observations				3:00 PM Observations			
	Min (°C)	Max (°C)	mm	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)
Week 1 Survey											
27/11/2023	21.5	26.1	27.8	23.8	85	ENE	13	23.0	89	SE	24
28/11/2023	20.6	32.4	28.0	22.9	93	W	11	30.6	50	W	15
29/11/2023	21.7	38.5	0.2	31.0	54	NW	17	37.4	28	WSW	17

Date	Daily Temperature		Daily Rainfall	9:00 AM Observations				3:00 PM Observations			
	Min (°C)	Max (°C)		Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)
30/11/2023	22.9	38.8	0	31.3	56	NW	13	37.0	28	NW	15
1/12/2023	21.9	35.1	13.2	25.0	86	N	6	33.8	45	M	19
Week 2 Survey											
4/12/2023	20.8	36.0	0.4	29.1	59	SSW	9	35.0	39	E	17
5/12/2023	22.4	34.4	0.0	28.9	64	E	19	33.6	41	E	24
6/12/2023	20.8	33.7	0.0	27.8	62	ESE	22	32.8	38	ESE	24
7/12/2023	19.0	34.7	0.0	26.1	65	ESE	19	33.7	23	E	33
8/12/2023	19.7	33.7	0.0	27.1	60	ESE	26	33.1	31	E	31

Red text – denotes the highest temperature during the survey period.

Blue text – denotes the lowest temperature during the survey period.

Bold text – denotes the highest rainfall during the survey period.

TABLE 3-7: DAILY WEATHER OBSERVATIONS AT MORANBAH AIRPORT WEATHER STATION FOR FEBRUARY/MARCH 2024

Date	Daily Temperature		Daily Rainfall	9:00 AM Observations				3:00 PM Observations			
	Min (°C)	Max (°C)	mm	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)
Week 1 Survey											
26/02/2024	23.8	33.2	0	28.4	75	E	24	31.5	60	ESE	19
27/02/2024	23.0	33.8	0	27.2	78	E	24	29.6	71	NE	30
28/02/2024	22.6	33.5	0	27.2	73	ESE	26	31.6	50	ENE	22

Date	Daily Temperature		Daily Rainfall	9:00 AM Observations				3:00 PM Observations			
	Min (°C)	Max (°C)		Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)
29/02/2024	20.2	31.1	0	26.6	75	E	17	29.3	60	E	17
01/03/2024	17.8	33.2	0	25.7	73	E	19	32.3	35	ENE	24
Week 3 Survey											
04/03/2024	22.4	34.5	0.6	24.8	93	ENE	9	33.5	45	NE	17
05/03/2024	21.1	34.5	0	26.2	83	ESE	20	33.4	43	E	20
06/03/2024	22.3	31.7	0	25.1	74	ESE	26	29.6	59	ESE	22
07/03/2024	21.0	34.1	0	26.1	70	E	28	32.0	45	E	22
08/03/2024	20.5	30.4	0	24.9	72	ESE	31	29.3	57	ESE	24

TABLE 3-8: DAILY WEATHER OBSERVATIONS AT MORANBAH AIRPORT WEATHER STATION FOR APRIL 2024

Date	Daily Temperature		Daily Rainfall	9:00 AM Observations				3:00 PM Observations			
	Min (°C)	Max (°C)		Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)	Temperature (°C)	Relative Humidity (%)	Direction	Speed (km/h)
02/04/2024	18.0	34.2	0.0	25.9	70	E	19	31.2	40	SE	17
03/04/2024	19.5	34.1	0.0	26.4	75	E	15	31.7	40	E	19
04/04/2024	18.8	33.1	0.0	25.6	73	E	13	31.9	48	E	22
05/04/2024	20.8	30.5	0.6	25.4	79	ESE	20	28.2	66	ESE	24

Red text – denotes the highest temperature during the survey period.

Blue text – denotes the lowest temperature during the survey period.

Bold text – denotes the highest rainfall during the survey period.

3.4.4 SURVEY ADEQUACY

A survey adequacy review has been undertaken for both the post dry season and post wet season survey effort, with a full list of the targeted EPBC Act and NC Act listed flora and fauna, their survey guideline requirements and survey adequacy presented in Table 3-9.

It should be noted that the field surveys for fork-tailed swift and ornamental snake are both best surveyed prior to or following heavy rainfall events and/or when prey is most active. As per the above section, rainfall was experienced in all survey events, however, more prominent during the first week of both survey events (a total of 69.2 mm during week 1 of the wet season survey and 15 mm during week 1 of the post-wet season survey). Despite surveys being conducted during heavy rainfall, neither species were observed.

The 'Terrestrial Vertebrate Fauna Survey Guideline for Queensland' (Eyre et al., 2022) notes two survey events, spring to early summer (September – mid November); and autumn (March – mid May), are to be conducted within the Brigalow Belt Bioregion to achieve adequacy. The post dry season survey was undertaken in November and December 2023, however, the guidelines state:

- *'rainfall is a major trigger for increased activity in many species; and*
- *this period can be very dry so conducting a second survey during moist periods is critical'.*

Whilst the post-dry season survey was undertaken outside of the guideline timing, both survey weeks experienced rainfall, suggesting fauna activity was not restricted, and the survey was conducted during a moist period. Therefore, the post-dry season survey meets the adequacy requirements as specified within the guideline. The post wet season survey was undertaken in March and April 2024, and as such, the survey event meets this adequacy.

TABLE 3-9: FIELD SURVEY ADEQUACY TABLE

Target Species	Survey Guidelines and Requirements	Sampling Technique and Effort	Comments on Survey Adequacy
Threatened Ecological Communities			
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant)	<p><u>Approved Conservation Advice for the Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) ecological community (DoE, 2013b)</u></p> <p>Surveys may be undertaken most times of the year; however, timing consideration should be given to flowering shrub species and active growth. Timing of surveys should allow for a reasonable interval following a disturbance event.</p>	<ul style="list-style-type: none"> 7 BioCondition assessments 20 quaternary vegetation assessments 	<p><i>Survey adequacy appropriate for TEC. TEC is known to occur.</i></p> <ul style="list-style-type: none"> Surveys were undertaken in the associated REs for this TEC. Surveys considered the diagnostic criteria for the TEC and TEC was recorded to occur.
Birds			
Australian painted snipe (<i>Rostratula australis</i>)	<p><u>Survey Guidelines for Australia's Threatened Birds (DEWHA, 2010)</u></p> <p>Targeted surveys for Australian painted snipe include area searches or transects through suitable wetlands, with detection methods by sighting and flushing. Additionally, targeted stationary observations and dawn and dusk in suitable wetland habitats is also recommended, by sighting. Brief spotlighting searches shortly after dusk may also detect the species, however this is not the preferable method of detection.</p>	<ul style="list-style-type: none"> 4 individual bird survey locations Bird surveys involved area searches (500 m area search), point surveys and resource or habitat target searches Roaming bird surveys between survey areas 22 habitat assessments determining the presence of any suitable habitat features for the species, including any foraging habitat 1 individual REMP survey 1 individual wetland assessment 	<p><i>Survey adequacy appropriate for species.</i></p> <ul style="list-style-type: none"> Bird surveys were conducted in primarily wooded and wetland areas and in conjunction with habitat assessments. Wetland areas were assessed during the post wet season when water was present. Habitat and quaternary assessments assessed the habitat suitability for this species throughout the Goonyella Rail Corridor. <p>Species was not recorded during the field surveys.</p>
Fork-tailed swift (<i>Apus pacificus</i>)	<p><u>Draft referral guidelines for 14 birds listed as migratory species under the EPBC Act (DoE, 2015)</u></p>	<ul style="list-style-type: none"> 4 individual bird survey locations 	<p><i>Survey adequacy appropriate for species with no survey guidelines.</i></p>

Target Species	Survey Guidelines and Requirements	Sampling Technique and Effort	Comments on Survey Adequacy
	There are no specific survey guidelines for the fork-tailed swift, however, it is recommended that a two-hectare survey in 20 minutes is undertaken in preferred habitat (i.e., moist forests, eucalyptus or Brigalow woodlands). During annual migration periods, standardised timed surveys should be conducted, and observers should listen for calls as well as sightings.	<ul style="list-style-type: none"> Bird surveys involved area searches (500 m area search), point surveys and resource or habitat target searches Roaming bird surveys between survey areas 22 habitat assessments determining the presence of any suitable habitat features for the species, including any foraging habitat 1 individual REMP survey 1 individual wetland assessment 	<ul style="list-style-type: none"> Bird surveys were conducted in primarily wooded areas and in conjunction with habitat assessments. Targeted bird surveys were conducted in the post dry and post wet season, providing seasonal data. Habitat and quaternary assessments assessed the habitat suitability for this species throughout the Goonyella Rail Corridor. <p>Species was not recorded during the field surveys.</p>
Glossy ibis (<i>Plegadis falcinellus</i>)	There are no specific survey guidelines for the glossy ibis, however as the species is listed as Migratory under the EPBC Act, the methodology as per the <i>Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species</i> (DoEE, 2017) may be applied. Surveys should be undertaken during the species optimal migration times, being August to April, with additional surveys conducted during the northern hemisphere breeding season to obtain immature populations data. Surveys should be conducted when habitat conditions are suitable, typically when water is present, with minimal rainfall or strong winds. Survey efforts for Migratory shorebirds are consistent across the species, with four surveys for roosting shorebirds when the majority of shorebirds are in the area with replicate surveys over this period.	<ul style="list-style-type: none"> 4 individual bird survey locations Bird surveys involved area searches (500 m area search), point surveys and resource or habitat target searches Roaming bird surveys between survey areas 22 habitat assessments determining the presence of any suitable habitat features for the species, including any foraging habitat 1 individual REMP survey 1 individual wetland assessment 	<p><i>Survey adequacy appropriate for species with no survey guidelines.</i></p> <ul style="list-style-type: none"> Bird surveys were conducted in primarily wooded and wetland areas and in conjunction with habitat assessments. Wetland areas were assessed during the post wet season when water was present. Habitat and quaternary assessments assessed the habitat suitability for this species throughout the Goonyella Rail Corridor. The species has been recorded in both adjoining Moranbah North Mine and Grosvenor Mine during field surveys in 2023 and 2024; however, these records occur outside of the Goonyella Rail Corridor.

Target Species	Survey Guidelines and Requirements	Sampling Technique and Effort	Comments on Survey Adequacy
	Four surveys are required for foraging shorebirds, including two surveys at spring low tide and two surveys at neap low tide.		
Squatter pigeon (southern) (<i>Geophaps scripta scripta</i>)	<u>Survey Guidelines for Australia's Threatened Birds (DEWHA, 2010)</u> Squatter pigeon (southern) surveys should be conducted by area searches or transect surveys in suitable habitat. Additionally, flushing surveys are considered likely to be useful, however are not the preferable method. Optimal survey conditions are likely between May to late October, and juveniles are predominantly detected during June.	<ul style="list-style-type: none"> • 4 individual bird survey locations • Bird surveys involved area searches (500 m area search), point surveys and resource or habitat target searches • Roaming bird surveys between survey areas • 22 habitat assessments determining the presence of any suitable habitat features for the species, including any foraging habitat • 1 individual REMP survey • 1 individual wetland assessment 	<p><i>Survey adequacy met.</i></p> <ul style="list-style-type: none"> • Bird surveys were conducted in primarily wooded and wetland areas and in conjunction with habitat assessments. • Habitat and quaternary assessments assessed the habitat suitability for this species throughout the Goonyella Rail Corridor. • A total of six squatter pigeon (southern) individuals were directly recorded during the survey periods. All individuals were recorded along dirt tracks whilst traversing the Goonyella Rail Corridor. <p>Species was recorded during the field surveys.</p>
Mammals			
Greater glider (southern and central) (<i>Petauroides volans</i>)	<u>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (Eyre et al., 2022).</u> Requires two-person, 30-minute spotlight searches of 100 x 100 m survey site. This can include spotlighting up one side of the 100 x 100 m area and then spotlighting back the other side of the 100 x 100 m area. Scat and sign search can coincide with the systematic diurnal active searches, within 50 x 50 m quadrats. Survey Guidelines for Australia's Threatened Mammals (DSEWPC, 2011a).	<ul style="list-style-type: none"> • Spotlighting – 2 teams of 2 people surveying for 2 hours in 1 night • 22 habitat assessments determining the presence of any suitable habitat features for the species, including any denning habitat and food sources 	<p><i>Survey adequacy met.</i></p> <ul style="list-style-type: none"> • A total of three greater glider (southern and central) individuals were directly recorded during the spotlighting effort. All individuals were recorded in riparian woodland along Teviot Brook. • Spotlighting surveys were conducted during suitable periods in habitats assessed as suitable greater glider (southern and central) foraging and breeding habitat.

Target Species	Survey Guidelines and Requirements	Sampling Technique and Effort	Comments on Survey Adequacy
	<p>Bright moonlight aids in detecting greater glider (southern and central).</p> <p>Spotlighting should be at least two 200 m transects per 5 ha sites. It is also recommended there be 100 m between survey transects.</p>		<ul style="list-style-type: none"> Habitat and quaternary assessments assessed the habitat suitability for this species throughout the Goonyella Rail Corridor. <p>Species was recorded during the field surveys.</p>
<p>Koala</p> <p>(<i>Phascolarctos cinereus</i>)</p>	<p><u>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (Eyre et al., 2022).</u></p> <p>Requires two-person, 30-minute spotlight searches of 100 x 100 m survey site. This can include spotlighting up one side of the 100 x 100 m area and then spotlighting back the other side of the 100 x 100 m area.</p> <p>Scat and sign search can coincide with the systematic diurnal active searches, within 50 x 50 m quadrats.</p> <p>A review of koala habitat assessment criteria and methods (Youngentob et al., 2021).</p> <p>The koala habitat assessment criteria and methods specify koala surveys are to be completed by a case-by-case scenario, however general methods include:</p> <p>Direct observations:</p> <ul style="list-style-type: none"> Direct observations should be undertaken between August and January for peak activity; Transect and point surveys (most commonly strip transects); Nocturnal spotlighting at smaller sites to determine species presence (detecting reflected eye shine) and density; Trained koala detection dogs; Mark-resight or mark-recapture; Thermal detection drones; 	<ul style="list-style-type: none"> Spotlighting – 2 teams of 2 people surveying for 2 hours in 1 night 3 individual locations for call playback for koala in suitable habitat 22 habitat assessments determining the presence of any suitable habitat features for the species, including any breeding habitat and food sources 4 individual koala SAT locations 2 individual locations for call playback for koala in suitable habitat 	<p><i>Survey adequacy met.</i></p> <ul style="list-style-type: none"> Spotlighting surveys were conducted during suitable periods in habitats assessed as suitable koala foraging and breeding habitat. Habitat and quaternary assessments assessed the habitat suitability for this species throughout the Goonyella Rail Corridor. Koala SATs were undertaken during habitat assessments in areas classified as koala habitat. Potential scratch marks were observed on eucalyptus trees within the Goonyella Rail Corridor. The species has been recorded in both adjoining mining leases in 2023 and 2024. <p>Species was recorded during the field surveys.</p>

Target Species	Survey Guidelines and Requirements	Sampling Technique and Effort	Comments on Survey Adequacy
	<ul style="list-style-type: none"> Radio tracking; and Camera trapping in areas where fresh scats and/or scratches have been recorded. <p>Indirect observations:</p> <ul style="list-style-type: none"> Scats – spot assessment technique (SAT) involving looking at food trees for presence of koala scats; Scats – rapid-SAT; Scats – koala optimised Rapid Assessment Methodology; Scats – balanced koala scat survey; Scats – faecal standing crop method; Scats – trained scat detection dogs; Scats – genetic sampling from faecal pellets; Call playback; Passive acoustics; Scratches; and Landscape nutritional quality surveys. 		
Reptiles			
Ornamental snake <i>(Denisonia maculata)</i>	<p><u>Survey Guidelines for Australia's Threatened Reptiles (DSEWPC, 2011b)</u></p> <p>There are currently no known survey methods to reliably detect the ornamental snake during dry seasons. However, species are likely detected by searches in suitable gilgai habitat whilst frogs are active. Survey methods should include driving roads at night, particularly following wet weather conditions, diurnal searches under shelter sites, pitfall, and funnel trapping methods, however these are all likely to yield low returns.</p>	<ul style="list-style-type: none"> Spotlighting – 2 teams of 2 people surveying for 2 hours in 1 night 22 habitat assessments determining the presence of any suitable habitat features for the species Reptile meanders occurred alongside habitat assessments in appropriate habitat for target species (3 reptile meanders in total) 1 individual REMP survey 	<p><i>Survey adequacy met.</i></p> <ul style="list-style-type: none"> The ornamental snake was not recorded during either survey event, despite targeted searches. Habitat assessments were conducted noting the presence/absence of suitable habitat (i.e., gilgai and areas with cracking black soils). Reptile meanders were undertaken in conjunction with habitat assessments, at all habitat assessment locations within brigalow regrowth and brigalow woodland. Thus, a total of

Target Species	Survey Guidelines and Requirements	Sampling Technique and Effort	Comments on Survey Adequacy
		<ul style="list-style-type: none"> 1 individual wetland assessment 	<p>three reptile meanders were conducted, including two within mapped ornamental snake habitat. Reptile meanders were undertaken for a total 20 minutes each (totalling 1 person-hour across the survey period).</p> <ul style="list-style-type: none"> Spotlighting involved driving roads at night; however did not involve targeted spotlighting in brigalow habitats with gilgai. Majority of vehicle spotlighting within the Project Area was undertaken in eucalypt woodland. Spotlighting within brigalow woodland with gilgai was not undertaken as gilgai was dry at the time of the survey, and as such, prey species (frogs) were not abundant, and snake activity is assumed lower. Survey efforts did not involve pitfall and funnel trapping. No frog species were identified within brigalow woodland or brigalow regrowth during the field surveys. <p>Species was not recorded during the field surveys.</p>

3.4.5 HABITAT MAPPING METHODOLOGY

Habitat mapping for the Project area was undertaken using desktop assessments and ground-truthed data. Desktop investigations to inform the habitat mapping included the review of species-specific habitat requirements and their ecology and biology, for all threatened flora and fauna with a known, likely, or potential occurrence. Species-specific habitat requirements and an assessment of where these habitats may occur have informed targeted field surveys for both the post dry season and wet-season survey events.

The following desktop mapping products were utilised during the habitat mapping to examine landscape features that influence species habitats:

- hi-resolution aerial imagery;
- topography;
- watercourse mapping;
- geology and soils mapping; and
- state government RE mapping.

Desktop data and potential species' habitats were ground-truthed through targeted flora and fauna surveys, vegetation and habitat assessments (including species present, condition and structure), BioCondition assessments and RE assessments. These surveys later informed the ground-truthed broad habitat mapping and ground-truthed RE mapping. As a general approach, habitat mapping for all known, likely and potential to occur species was undertaken by:

- reviewing species specific conservation and listing guidance, published literature of each species' habitat requirements, ecology and biology;
- identifying which broad habitat types provide preferred/suitable habitat for each species; and followed by;
- refinement of habitat within each broad habitat type to produce potential habitat mapping using REs and considering the information obtained during habitat and vegetation assessments, including:
 - land zones;
 - vegetation structure and condition;
 - vegetation communities and dominant flora species;
 - presence of required habitat features (e.g., hollow bearing trees, fallen timber, hollow logs etc.);
 - presence of direct or indirect signs of fauna use (e.g., scats, scratch marks etc.); and
 - overall condition of habitat.

Any habitat present was ground-truthed through in-depth habitat quality assessments (refer to Section 3.4.2.1). Additionally, species specific habitat mapping rules and their habitat requirements are elaborated in their respective sections within Section 4.3 (MNES) and Section 4.4.3 (MSES).

3.4.6 HABITAT CATEGORIES

As per the Queensland Environmental Offsets Policy – Significant Residual Impact Guideline (DES, 2014), habitat is defined as:

"An area occupied, or periodically or occasionally occupied, by any species, population or ecological community and includes all the different aspects (both biotic and abiotic) used by species during the different stages of their life cycles."

3.4.6.1 HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

Habitat critical to the survival of a species or ecological community is defined by the SIG 1.1 (DoE, 2013a) as the areas that are necessary:

- *'for activities such as foraging, breeding, roosting, or dispersal;*
- *for the long-term maintenance of the species or ecological community (including the maintenance of;*
- *species essential to the survival of the species or ecological community, such as pollinators);*
- *to maintain genetic diversity and long-term evolutionary development; or*
- *for the reintroduction of populations or recovery of the species or ecological community.'*

Species conservation advice typically provide a direct definition for identifying habitat critical to the survival of an endangered species. The documented definitions have been used, in conjunction with species-specific habitat attributes to inform the creation of locality specific habitat mapping rules. Species habitat within the Project area has been categorised as foraging, breeding, roosting or dispersal habitat.

3.4.6.2 PREFERRED HABITAT (HIGH QUALITY)

As per the Method for Mapping Matters of State Environmental Significance for the State Planning Policy (2017), preferred habitat is defined as:

"an area or location with crucial resources for the maintenance of populations of the taxon. Preferred habitat may be defined from known records or potential areas according to expert knowledge or habitat relationships."

3.4.6.3 GENERAL HABITAT (LOW QUALITY)

The Method for Mapping Matters of State Environmental Significance for the State Planning Policy (2017) defines general habitat as:

"An area or location that has been used by transient individuals of a taxon, or where a species has been recorded but there is insufficient information to assess the area as preferred habitat."

3.4.7 DEVELOPMENT AND REVIEW OF HABITAT MAPPING DEFINITIONS

The above information was gathered and collated into a master spreadsheet for all MNES and MSES species known, likely or having the potential to occur. The draft species-specific habitat definitions were peer-reviewed by 2rog Consulting. Following the review period, habitat definitions were refined where required, and based on the review comments provided. The final habitat definitions for each species are presented in the species profiles within Section 4.3 (MNES) and Section 4.4.3 (MSES).

4. ECOLOGICAL VALUES

This Section provides a detailed description of the ecological values identified, based on the findings of the desktop assessment and field surveys. Field surveys were undertaken during specific weather conditions, which may or may not have influenced the results obtained. Weather conditions experienced during the surveys are described in Section 3.4.3.

4.1 LANDSCAPE CONTEXT

The Project area is located within the Northern Bowen Basin sub-region of the Brigalow Belt bioregion. The Brigalow Belt bioregion comprises a wide band of wooded grasslands dominated by *Acacia* spp., covering an area of 408,242 km² between the tropical rainforests from Townsville and south to the semi-arid regions along the Queensland to New South Wales border.

Land within the Northern Bowen Basin is predominantly used for agricultural purposes comprising low-intensity cattle grazing, sugarcane cultivation, and vegetable cropping intermixed with mining activities.

There are no protected areas of Queensland (e.g., national parks, conservation parks, reserves, state forests etc.) located within the Project area, or within 50 km. Areas of remnant vegetation are widespread and are particularly located in association with Teviot Brook.

4.2 BROAD HABITAT TYPES

The Project area has been classified into 12 ground-truthed Broad Habitat Types, based on RE mapping (Table 4-1), of which, six are classified as Broad Habitat Types and six as either regrowth habitats or work areas (Table 4-2). As an overview, the Project area is comprised of:

- remnant vegetation – comprising 1,133 or 48.4% ha;
- regrowth vegetation – comprising 747.2 ha or 29.6%; and
- work areas – comprising 515.6 or 22%.

The broad habitat types are presented on Figure 4-1.

TABLE 4-1: TERRESTRIAL BROAD HABITAT TYPES

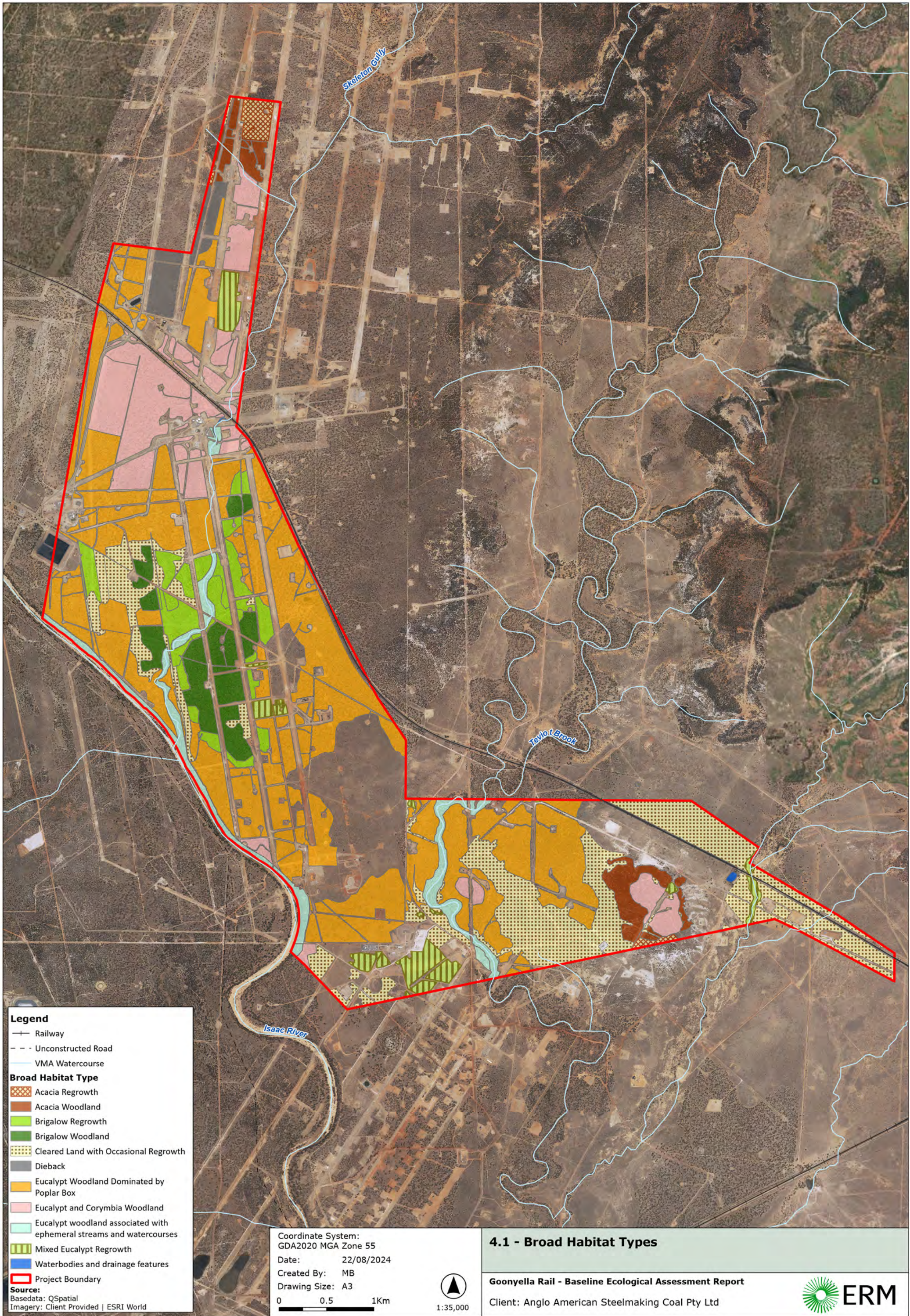
Broad Habitat Type	Hectares (ha)	Percentage (%)
<p><u>Acacia woodland</u> Includes mixed <i>Acacia</i> spp. woodland to approximately 8 m, with sparse understorey. Habitat was fragmented with minor disturbance of weeds. Scattered woody debris, cracking soil and a moderate understorey are all microhabitat features that may be of useful habitat value to small animals that require abundant shelter from sun and predators.</p>	48.3	2.1
<p><u>Brigalow (<i>Acacia harpophylla</i>) woodland</u> Includes brigalow (<i>Acacia harpophylla</i>) woodland to approximately 8 m, with sparse understorey and dense ground cover of grass. Occasional woody debris present. One patch within this habitat type constitutes the Brigalow TEC, due to the presence of features that meet the key diagnostic criteria and condition thresholds to meet the TEC requirements (refer to Section 4.3.1.1). Dense ground cover, loose bark, woody debris, and cracking soil types are all microhabitat features that may be of useful habitat value to small animals that require abundant shelter from sun and predators.</p>	85.2	3.6
<p><u>Eucalyptus and corymbia woodland</u> Includes mixed <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland to approximately 18 m. Generally sparse canopy coverage/ tree density. Shrub layer present but sparse, with areas of dense shrub including <i>Carissa ovata</i>. Eucalypts (especially and poplar box and pink bloodwood) in this habitat type provide an abundant food resource for eucalyptus specialists (i.e., large gliders and koala). Scattered hollows and tree cavities also provide a limited shelter resource for hollow-dwelling mammals and birds.</p>	205.7	8.8
<p><u>Eucalyptus woodland associated with ephemeral streams and watercourses</u> Includes mixed <i>Eucalyptus</i> spp. (<i>E. tereticornis</i> & <i>E. populnea</i>) along the Isaac River, and ephemeral streams. Large, mature eucalypts (especially smooth-barked and poplar box) in this habitat type provide an abundant food resource for eucalyptus specialists (i.e., large gliders and koala) as well as large hollows for hollow-dwelling mammals and birds. During the wet season, the Isaac River and its immediate vicinity will be valuable foraging and dispersal habitat for migratory birds (including glossy ibis and Australian painted snipe) as they seek food and refuge during the migratory pathways.</p>	75.4	3.2
<p><u>Eucalyptus woodland dominated by Poplar Box (<i>Eucalyptus populnea</i>)</u> Includes poplar box (<i>Eucalyptus populnea</i>) dominated woodland, with occasional natural hollowing. Often associated with woody debris and dense grass.</p>	717.1	30.6

Broad Habitat Type	Hectares (ha)	Percentage (%)
The poplar box in this habitat type provides an abundant food resource for eucalyptus specialists (i.e., large gliders and koala). Scattered hollows and tree cavities also provide a limited shelter resource for hollow-dwelling mammals and birds.		
<u>Waterbodies and drainage features</u> Includes permanent and seasonal, natural water bodies and drainage features including rivers, creeks, dams, and drainage features which provide suitable habitat for wading birds. Lined mine water dams are not included in this BHT and are not included in the mapping. This is valuable habitat for wading birds, as it promotes growth of their food sources (i.e., crustaceans, molluscs, arthropods) in an accessible habitat of shallow water.	1.3	<0.1

TABLE 4-2: REGROWTH AREAS AND WORK AREAS

Habitat Type and Vegetation Community	Hectares (ha)	Percentage (%)
<u>Acacia regrowth</u> Includes mixed <i>Acacia</i> spp. sparse or scattered regrowth. Offers minimal habitat value to any species as there is limited complexity, shelter, and food sources. This habitat is typically used by generalist species, but on occasion threatened species has potential to use.	16.1	0.7
<u>Brigalow (<i>Acacia harpophylla</i>) regrowth</u> Includes sparse or scattered Brigalow (<i>Acacia harpophylla</i>) regrowth without the features that would classify it as Brigalow TEC. Offers minimal habitat value to any species as there is limited complexity, shelter and food sources. This habitat is typically used by generalist species, but on occasion threatened species has potential to use.	89.4	3.8
<u>Cleared agricultural land</u> Includes managed cleared grasslands. This is a very open and homogenous habitat type that offers little value to any species, unless they are a grassland specialist. Birds of prey may take advantage of the minimal canopy cover to hunt for ground dwelling species.	203.3	8.7
<u>Cleared land with occasional regrowth</u> Includes cleared agricultural land with occasional <i>Acacia</i> spp. / <i>Eucalyptus</i> spp. / <i>Corymbia</i> spp. regrowth. This is a very open and homogenous habitat type that offers little value to any species unless they are a grassland specialist. Birds of prey may take advantage of the minimal canopy cover to hunt for ground dwelling species.	301.3	12.9
<u>Mixed eucalyptus regrowth</u> Includes scattered or sparse <i>Eucalyptus</i> spp. / <i>Corymbia</i> spp. regrowth, low habitat value but may be utilised by species to travel between habitats. Offers minimal habitat value to any species as there is limited complexity, shelter and food sources. This habitat is typically used by generalist species, but on occasion threatened species has potential to use.	50.7	2.2
<u>Dieback</u> Includes areas subject to severe deterioration and tree death.	30.9	1.3

Additionally, a portion (515.6 ha or 22%) of the Project area is categorised as access roads, haul roads and other cleared mine surfaces, including all areas used by mining activities and are void of habitat.



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse

Broad Habitat Type

- Acacia Regrowth
- Acacia Woodland
- Brigalow Regrowth
- Brigalow Woodland
- Cleared Land with Occasional Regrowth
- Dieback
- Eucalypt Woodland Dominated by Poplar Box
- Eucalypt and Corymbia Woodland
- Eucalypt woodland associated with ephemeral streams and watercourses
- Mixed Eucalypt Regrowth
- Waterbodies and drainage features
- Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date: 22/08/2024

Created By: MB

Drawing Size: A3

0 0.5 1Km

1:35,000

4.1 - Broad Habitat Types

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.3 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

MNES are summarised in Table 4-3, and further described in the following Section 4.3.1 – 4.3.4.

TABLE 4-3: SUMMARY OF MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

Matter	Relevance	Relevance
World Heritage Properties	X	The PMST search did not identify any world heritage properties within 10 km of the Project area.
Wetlands of International Importance	X	The PMST search did not identify any wetlands of international importance within 10 km of the Project area.
Threatened Ecological Communities and Species	✓	<p>The PMST search identified the following four TECs with the potential to occur within 10 km of the Project area:</p> <ul style="list-style-type: none"> • brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC; • natural grasslands of the Queensland central highlands and northern Fitzroy Basin TEC; • poplar box grassy woodland on alluvial plains TEC; and • demi-evergreen vine thickets of the Brigalow Belt (north and south) and Nandewar Bioregions. <p>Following field surveys, only Brigalow TEC is known to occur within the Project area.</p>
	X	The PMST search identified six threatened flora species with the potential to occur within the Project area; however, following the LoO assessment and field surveys, all identified flora species are assessed as unlikely to occur.
	✓	<p>The PMST search identified 22 threatened fauna species within 10 km of the Project area, of which:</p> <ul style="list-style-type: none"> • koala is likely to occur; • greater glider (southern and central) is known to occur; • squatter pigeon (southern) is known to occur; • ornamental snake is likely to occur; and • Australian painted snipe has the potential to occur.
Migratory Species	✓	<p>The PMST search identified 22 threatened fauna species within 10 km of the Project area, of which:</p> <ul style="list-style-type: none"> • glossy ibis is likely to occur.
Commonwealth Marine Area	X	The PMST search did not identify any Commonwealth marine areas within 10 km of the Project area.
The Great Barrier Reef Marine Park	X	The PMST search did not identify the Great Barrier Reef Marine Park within 10 km of the Project area.
Nuclear Actions	X	The PMST search did not identify any nuclear actions within 10 km of the Project area.

4.3.1 THREATENED ECOLOGICAL COMMUNITIES

The desktop assessment identified four TECs as potentially occurring, including:

- brigalow (*Acacia harpophylla* dominant and co-dominant) – listed as Endangered (EPBC Act);
- natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin – listed as Endangered (EPBC Act);
- poplar Box Grassy woodland on Alluvial Plains – listed as Endangered (EPBC Act); and
- semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Regions – listed as Endangered (EPBC Act).

Following targeted field surveys and refinement of the LoO assessment, only one TEC, being Brigalow (*Acacia harpophylla* dominant and co-dominant) is confirmed to occur within the Project area. The remaining TECs were confirmed as not occurring, through field-verified surveys and assessments against the relevant key diagnostic criteria and condition thresholds for each TEC (as per the TEC conservation advice).

A detailed description of the TEC confirmed to occur is provided in the following subsection.

4.3.1.1 BRIGALOW (*ACACIA HARPOPHYLLA* DOMINANT AND CO-DOMINANT) TEC

The Brigalow (*Acacia harpophylla* dominant and co-dominant) TEC is currently listed as Endangered under the EPBC Act, effective 4 April 2001 and is assessed as known to occur due to field surveys confirming patches meeting the diagnostic criteria.

The Brigalow TEC occurs throughout semi-arid Queensland and New South Wales, from Townsville, QLD, west to Blackall, QLD and south to Narrabri, NSW (DoE, 2013b). The Brigalow Belt TEC occurs in several IBRA Bioregions, including the Brigalow Belt Bioregion, in which the Project area is located.

This ecological community is characterised by the presence of Brigalow (*Acacia harpophylla*) as the most abundant and dominant or co-dominant species within the tree layer (Butler, 2007). Brigalow within the tree layer is often co-dominant with Belah (*Casuarina cristata*), *Acacia* spp., or *Eucalyptus* spp. (DoE, 2013b).

In the Brigalow Belt bioregion, a suspected patch of Brigalow TEC must meet the description of one of the following REs (DoE, 2013b):

- RE 11.3.1 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains;
- RE 11.4.3 – *Acacia harpophylla* and/or *Casuarina cristata* shrubby open forest on Cainozoic clay plains;
- RE 11.4.7 – Open forest to woodland of *Eucalyptus populnea* with *Acacia harpophylla* and/or *Casuarina cristata* on Cainozoic clay plains;
- RE 11.4.8 – *Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains;
- RE 11.4.9 – *Acacia harpophylla* shrubby open forest to woodland with *Terminalia oblongata* on Cainozoic clay plains;
- RE 11.4.10 – *Eucalyptus populnea* or *E. pilligaensis*, *Acacia harpophylla*, *Casuarina cristata* open forest to woodland on margins of Cainozoic clay plains;
- RE 11.5.16 – *Acacia harpophylla* and/or *Casuarina cristata* open forest in depressions on Cainozoic sand plains/remnant surfaces;

- RE 11.9.1 – *Acacia harpophylla*-*Eucalyptus cambageana* open forest to woodland on fine-grained sedimentary rocks;
- RE 11.9.5 – *Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks;
- RE 11.9.6 – *Acacia melvillei* +/- *A. harpophylla* open forest on fine-grained sedimentary rocks;
- RE 11.11.14 – *Acacia harpophylla* open forest on deformed and metamorphosed sediments and interbedded volcanics; and
- RE 11.12.21 – *Acacia harpophylla* open forest on igneous rocks; colluvial lower slopes.

The TEC's conservation advice lists out the following threats relevant to Brigalow TEC (DoE, 2013b):

- extensive land clearing;
- uncreased frequency and intensity of fires;
- introduction of invasive flora, including Buffel Grass (*Cenchrus ciliaris*), Rhodes Grass (*Chloris gayana*) and Green Panic Grass (*Megathyrsus maximus*);
- introduction of invasive fauna, including feral pigs (*Sus scrofa*), goats (*Capra aegagrus hircus*), cane toads (*Rhinella marina*), cats (*Felis catus*) and foxes (*Vulpes vulpes*);
- inappropriate grazing regimes; and
- climate change.

TEC Diagnostic Criteria

To be considered Brigalow TEC, the suspected patch must meet the following diagnostic criteria (DoE, 2013b):

1. the presence of *Acacia harpophylla* as one of the most abundant tree species in the patch. *A. harpophylla* is either dominant in the tree layer, or co-dominant with other species (notably *Casuarina cristata*, other *Acacia* spp., or *Eucalyptus* spp.);
2. the patch size is 0.5 ha or more in size; and
3. exotic perennial plants comprise less than 50% of the total vegetation cover of the patch, as assessed over a minimum sample area of 0.5 ha (100 m by 50 m), that is representative of the patch.

The above criteria were considered in refining potential mapping TEC patches during the field surveys.

Survey Methods and Effort

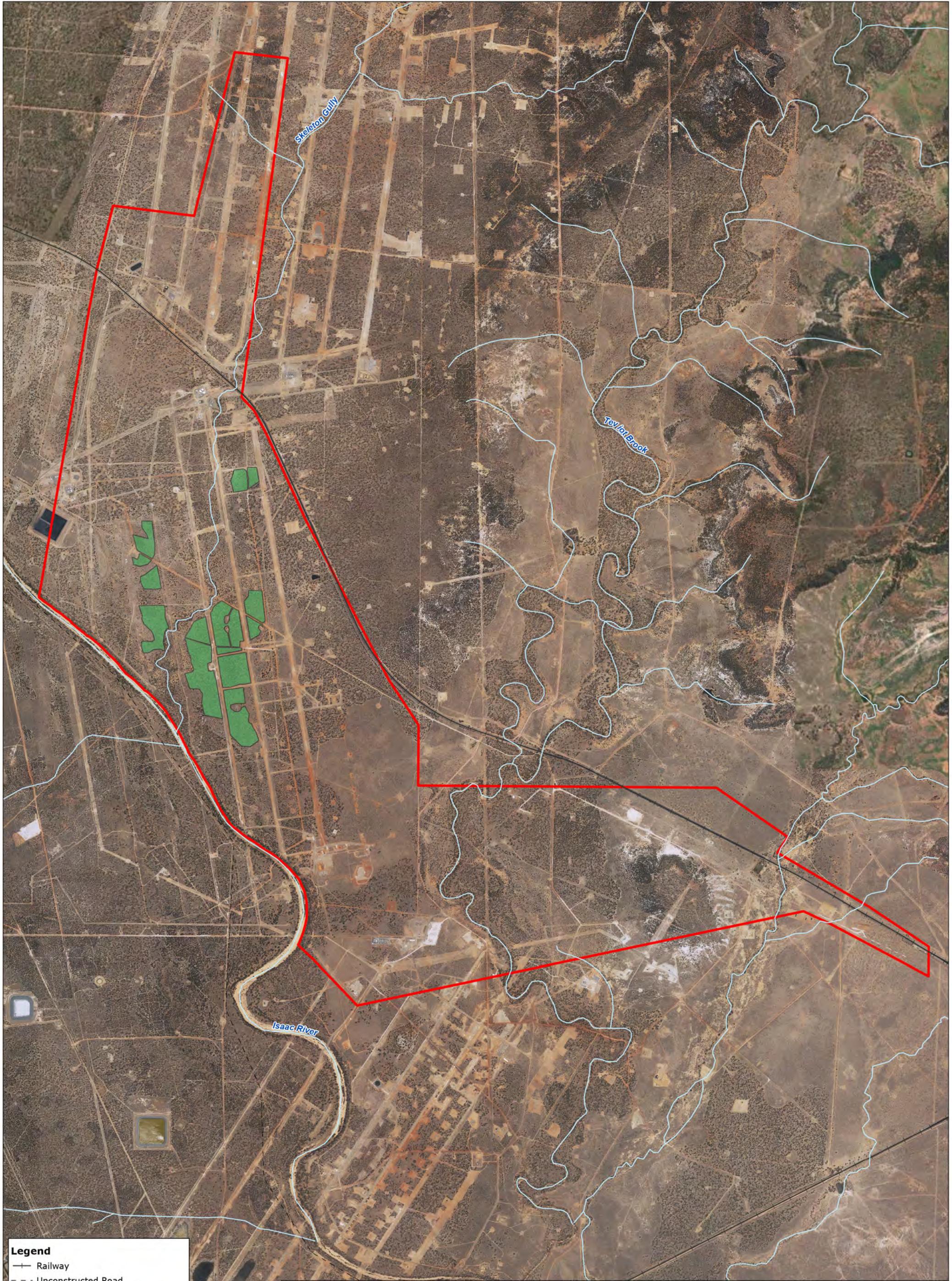
In total seven BioCondition assessments and 20 quaternary assessments were completed within the Project area, in which representative sampling of RE was undertaken. Data collected during these assessments included a list of species present in each strata (canopy, subcanopy, shrub layer and ground layer), the presence and height of each strata, topographical features and assessment of water features. These assessments included quaternary assessments in accordance with Neldner et al. (2022) and BioCondition assessments which also defined the boundaries of vegetation communities.

Survey Results

The field surveys confirmed the presence of brigalow communities, with 14 patches meeting the required key diagnostic criteria and condition thresholds to be considered brigalow TEC. The raw data obtained in the field surveys is provided in Appendix D.

TEC Mapping Approach

Following field verification, brigalow patches were delineated into two Broad Habitat Types, being, regrowth or remnant/advanced regrowth. The remnant brigalow patches (brigalow woodland Broad Habitat Type) meet the condition thresholds (as described above) to be considered brigalow TEC. The brigalow regrowth areas do not meet the condition thresholds as they show signs of immaturity such as low canopy cover, short height and low diameter; with these areas highly unlikely to be older than 15 years. Brigalow TEC has been mapped as 14 patches towards the north-western / western portion of the Project area, totalling 85.2 ha (3.64%) (refer to Figure 4-2).



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse
- Brigalow (Acacia harpophylla dominant and co-dominant) TEC
- Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date: 22/08/2024

Created By: MB

Drawing Size: A3

0 0.5 1Km

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4.2 - Brigalow (Acacia harpophylla dominant and co-dominant) TEC Mapping

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.3.2 LISTED THREATENED FLORA SPECIES

The PMST search identified six threatened flora species with the potential to occur within the Project area, being:

- large-fruited denhamia (*Denhamia megacarpa*);
- king blue-grass (*Dichanthium queenslandicum*);
- bluegrass (*Dichanthium setosum*);
- black ironbox (*Eucalyptus raveretiana*);
- *Polianthion minutiflorum*; and
- *Samadera bidwillii*.

Following the initial LoO, black ironbox and bluegrass were initially assessed as having the potential to occur. However, following extensive targeted field surveys, both black ironbox and king blue-grass were not identified, and as a result, the species LoO assessment has since been updated to 'unlikely to occur' and both species are not considered further in this Report.

Following the initial LoO assessment, all other flora species are assessed as unlikely to occur due to the lack of habitat suitability for the species and therefore, are not considered further in this Report.

4.3.3 LISTED THREATENED FAUNA AND MIGRATORY SPECIES

Twenty-nine (29) threatened species and nine migratory species were identified during the PMST portion of the desktop assessment with a likelihood to occur. Following field surveys, three listed fauna species were detected and known to occur, and one likely to occur and two with the potential to occur. Refer to the below sections for species profiles on each species with a likelihood to occur.

4.3.3.1 LISTED THREATENED BATS

The PMST search identified two threatened bats as having potential to occur, being Corben's long-eared bat (*Nyctophilus corbeni*) and ghost bat (*Macroderma gigas*); however, following field surveys and deployment of Anabat devices in Moranbah North Mine and Grosvenor Mine (outside of the Project area), both species were not recorded. As such, both threatened bat species have been assessed as unlikely to occur. It should be noted that audio detection is the preferred method of detection (particularly audio detection while actively spotlighting at night) for all bat species.

4.3.3.2 AUSTRALIAN PAINTED SNIPE

Species Profile and Threats

The Australian painted snipe (*Rostratula australis*) is currently listed as Endangered and Marine under the EPBC Act, effective 15 May 2013, and was assessed as having the potential to occur during the LoO assessment.

The Australian painted snipe occurs throughout Australia, being recorded at wetlands in all Australian states and territories, however, is the most localised in eastern Australia. The Project area is located within the species modelled habitat distribution, as 'species or species habitat may occur'.

As per the species conservation advice (DSEWPC, 2013), known threats to the Australian painted snipe include:

- loss and degradation of wetland habitat as a result of the drainage of wetlands and the diversion of water to agriculture and reservoirs; and
- predation by feral animals including European Red Fox (*Vulpes vulpes*) and feral cats (*Felis catus*).

Potential threats to the Australian painted snipe include:

- coastal port and infrastructure development;
- shale oil mining near autumn-winter sites on the central Queensland coast; and
- replacement of native vegetation by invasive weeds, including Jerusalem thorn (*Parkinsonia aculeata*).

Species Habitat

General habitat

Within its distribution, the Australian painted snipe inhabits shallow terrestrial freshwater wetlands, and occasionally brackish water. Common habitats for the species include temporary and/or permanent lakes, swamps and claypans, inundated or waterlogged grassland, saltmarsh, farm dams and sewage farms, and bore drains (DSEWPC, 2013). In drought conditions, the Australian painted snipe requires suitable wetland conditions and may move to other suitable habitats if required (Marchant and Higgins, 1993), however migratory patterns are poorly known for the species (Pringle, 1987).

Breeding habitat for the species is known to be more specific, where the species requires shallow wetlands with areas of bare wet mud and upper and canopy cover within the immediate vicinity. All recorded nests have been located in or near small islands in freshwater wetlands (Rogers, 2002).

Central Queensland habitat

Within Central Queensland, Australian painted snipe habitat has been defined into preferred habitat and marginal habitat.

Preferred habitat for Australian painted snipe is influenced by seasonal conditions and includes:

- shallow freshwater wetlands with areas of bare mud and upper canopy covers nearby that provides exposed areas and rank emergent vegetation (i.e., grasses, sedges and rushes etc.).

Marginal habitat for Australian painted snipe includes:

- shallow permanent or ephemeral brackish wetlands and inundated areas (dams, bore drains, lakes, claypans etc.) with ground cover (i.e., grasses, sedges and rushes that are not preferred habitat).

Species Occurrence in the Broader Area

There are no publicly available desktop records of the Australian painted snipe within the Project area; however, there is 1 record within 10 km, recorded in mallee woodland and shrublands. Overall, there are only 2 records of the species within 50 km.

Field Survey Methodology and Results

Survey Guidelines

Survey guidelines for the Australian painted snipe are outlined in the *Survey Guidelines for Australia's Threatened Birds* (DEWHA, 2010), and include area searches or transects through suitable wetlands, with detection methods by sighting and flushing. Additionally, targeted stationary observations and dawn and dusk in suitable wetland habitats is also recommended, by sighting. Brief spotlighting searches shortly after dusk may also detect the species, however this is not the preferable method of detection.

Survey Method and Effort

Australian painted snipe was targeted during the field surveys at four bird survey locations, through bird surveys, roaming bird surveys and habitat assessments. At each bird survey location, area searches of 500 m, point surveys and resource or habitat target searches were conducted to determine presence and habitat suitability. Roaming bird surveys were conducted between survey areas. Additionally, a total of 22 habitat assessments were conducted to determine the presence of habitat features, including nests and roosting sites.

Survey Results

The species was not recorded during the field surveys.

Habitat Assessment and Mapping Rules

Habitat mapping for the Australian painted snipe was undertaken using the methodology described in Section 3.4.2.2, and on the basis of the habitat requirements presented in Table 4-4. Species-specific habitat requirements information was derived from the following sources:

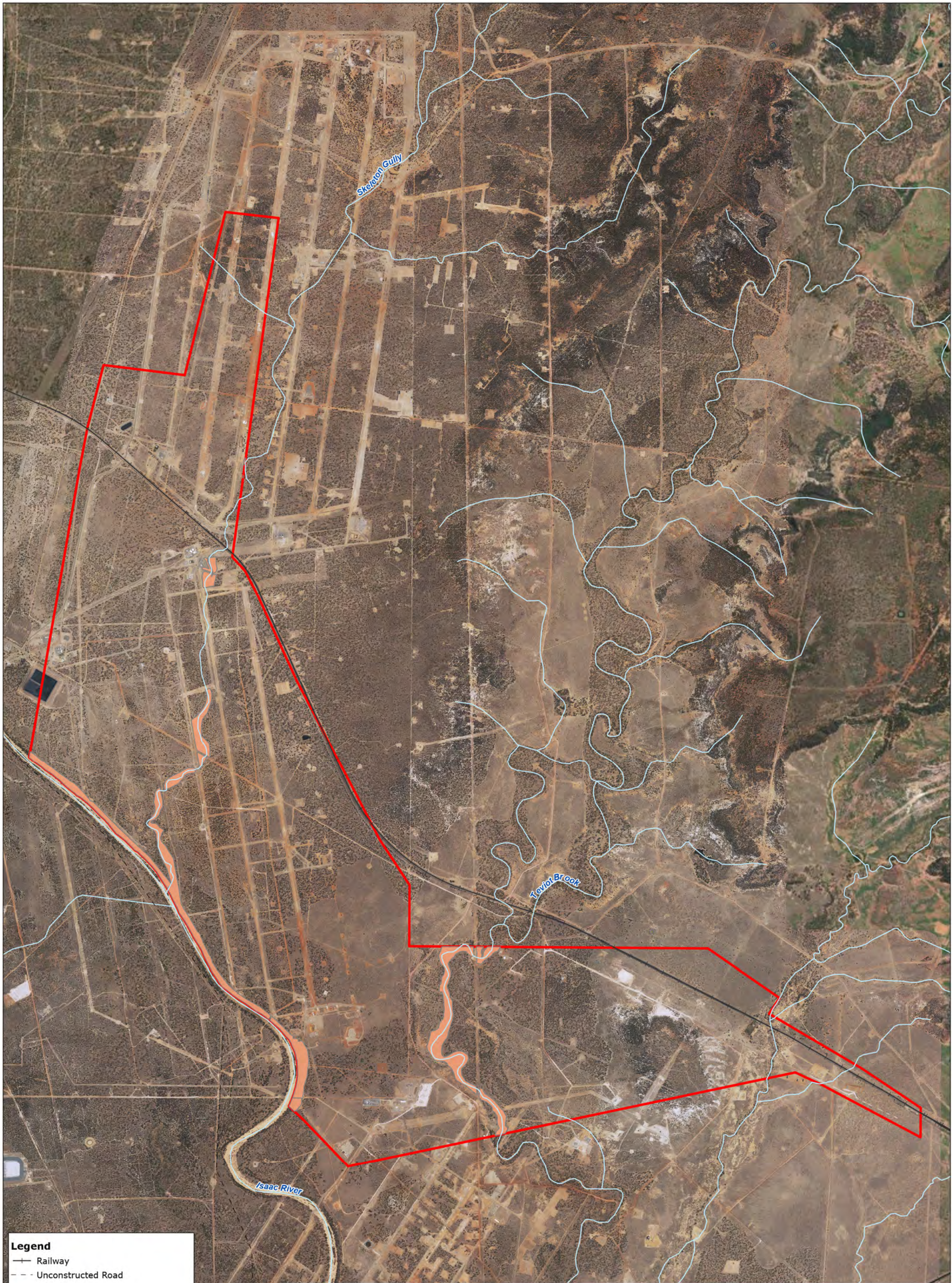
- Species Profile and Threats Database (DCCEE, 2024); and
- Approved Conservation Advice for *Rostratula australis* (Australian painted snipe) (DSEWPC, 2013).

Field surveys confirmed the presence of foraging and dispersal habitat for the Australian painted snipe, however breeding habitat features (as per Table 4-4 and Figure 4-3) were generally absent across the Goonyella Rail Corridor, and as such, Australian painted snipe habitat is mapped as foraging and dispersal only. Foraging and dispersal habitat includes those areas of permanent and ephemeral waterbodies (including lakes, rivers etc.) with rank tussock vegetation and constitutes 73.8 ha (3.2% of the Goonyella Rail Corridor).

Australian painted snipe habitat is largely restricted to the surrounding areas of the Teviot Brook, Skeleton Gully and farm dams, as mapped on Figure 4-3.

TABLE 4-4: AUSTRALIAN PAINTED SNIPE HABITAT MAPPING RULES

Habitat Category	Habitat Class	Habitat Requirements and Mapping Rules
Breeding habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> Shallow wetland with areas of bare mud with upper and canopy cover nearby; and Islands in freshwater wetlands – shallow water, exposed mud and dense low cover.
Foraging and dispersal habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> Shallow freshwater wetlands, temporary and permanent lakes, swamps and claypans; Rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum muehlenbeckia or canegrass or sometimes tea-tree (<i>Melaleuca</i> spp.); and Areas that are lined with trees, or that have some scattered fallen or washed-up timber. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> Remnant RE 11.3.25; and Regrowth RE 11.3.25.
	Occasional visitor (non-habitat)	<ul style="list-style-type: none"> Unlined farm dams and bore drains



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse
- Australian Painted Snipe Foraging and Dispersal Habitat (Preferred / High quality habitat)
- Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date: 22/08/2024

Created By: MB

Drawing Size: A3

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4.3 - Australian Painted Snipe Habitat

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.3.3.3 GREATER GLIDER (SOUTHERN AND CENTRAL)

Species Profile and Threats

The greater glider (southern and central) (*Petauroides volans*) is currently listed as Endangered under the EPBC Act, effective 5 July 2022 and is assessed as known to occur, as a result of direct records during the field surveys.

Greater glider (southern and central) occurs along eastern Australian, with a broad distribution ranging from Proserpine (QLD), south through New South Wales and the Australian Capital Territory, to Wombat State Forest in central Victoria. The species predominantly occurs at an elevational range of 0 – 1200 m above sea level. The Project area is located within the species modelled habitat distribution, as 'species or species habitat likely to occur'.

As per the species conservation advice (DCCEEW, 2022), threats to the greater glider (southern and central) include:

- inappropriate fire regimes;
- habitat clearing and fragmentation;
- timber harvesting;
- entanglement in barbed wire fencing;
- climate change – increased temperatures and changes to rainfall patterns;
- hyper-predation by owls, including Powerful Owl (*Ninox strenua*) and Sooty Owl (*Tyto tenebricosa*);
- competition for hollows from Sulphur-crested Cockatoos; and
- predation by feral cats (*Felis catus*) and European Red Foxes (*Vulpes vulpes*).

Species Habitat

General habitat

Greater glider (southern and central) habitat consists of tall, montane eucalyptus forests with mature hollow-bearing trees (Eyre, 2004). Eyre et al., 2022 lists the species habitat as REs with confirmed greater glider (southern and central) records and those containing crucial habitat attributes (i.e., live and dead-hollowing bearing denning trees, feed and large trees and habitat connectivity). The species has an affinity for habitats dominated or co-dominated by *Corymbia citriodora*, *E. moluccana*, *E. tereticornis*, *E. crebra*, *C. intermedia* and *E. portuensis* (Eyre et al. 2022). The riparian forests and woodlands within the Goonyella Rail Corridor are dominated by *E. camaldulensis* and *E. tereticornis*, two species suitable as foraging and denning trees for greater glider (southern and central).

In southern QLD specifically, Eyre (2002) notes greater glider (southern and central) requires a density of at least 2-4 live den trees per ha of suitable forest habitat. In the same note, the species shows 'preference for large hollows (diameter >10cm) in large, old trees' (DCCEEW, 2022), though it is noted that the species will utilise both live and dead trees.

Central Queensland Habitat

In Central Queensland, greater glider (southern and central) habitat is defined into preferred habitat and general habitat, with preferred habitat including:

- remnant connected eucalypt woodlands and forests containing more than 2 hollow bearing trees per 2 ha, with hollow entrance diameters greater than 10 cm;
- within Central Queensland, preferred foraging tree species include:
 - those > 30 cm diameter at DBH; and
 - species including:
 - red ironbark (*Eucalyptus fibrosa*);
 - gum-topped box (*E. moluccana*); and
 - lemon-scented spotted gum (*Corymbia citriodora*).
- within Central Queensland, preferred denning tree species include:
 - those > 50 cm DBH, as trees greater than 50 cm DBH are more likely to contain suitable hollows for the species (Eyre et al., 2022); and
 - tree species including:
 - forest red gum (*E. tereticornis*);
 - lemon-scented spotted gum (*C. citriodora*); and
 - river red gum (*E. camaldulensis*).

Suitable foraging and/or denning trees for the greater glider (southern and central) in Central Queensland include coolibah (*E. coolabah*), narrow-leaved ironbark (*E. crebra*), silver-top stringybark (*E. laevopinea*), mountain coolibah (*E. orgadophila*), poplar box (*E. populnea*), silver-leaved ironbark (*E. melanophloia*) and Moreton Bay ash (*C. tessellaris*).

General habitat for greater glider (southern and central) within Central Queensland consists of any remnant eucalypt woodlands within 120 m of denning habitat, containing hollow bearing trees with an entrance diameter of > 10 cm; however, no more than 2 hollow bearing trees per 2 ha.

Species Occurrence in the Broader Area

There are no publicly available desktop records of the greater glider (southern and central) within the Project area or within the locality. The nearest public record of the species was recorded in 1996, approximately 50 km to the north-west, along Kilcummin Diamond Downs Road, in cleared, non-native vegetation.

While there are no publicly available records within the locality, recent ecological surveys of the adjacent Grosvenor Mine and Moranbah North Mine confirmed species presence in a high abundance.

Field Survey Methodology and Results

Survey Guidelines

Survey guidelines for the greater glider (southern and central) are outlined in the *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (terrestrial guidelines) (Eyre et al., 2022) and *Survey Guidelines for Australia's Threatened Mammals* (DSEWPC, 2011a).

Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (Eyre et al., 2022):

- the terrestrial guidelines specify greater glider (southern and central) surveys are to be completed by:
 - two-person, 30-minute spotlighting search of 100 x 100 m survey site. This can include spotlighting up one side of the 100 x 100 m survey site and then spotlighting back the other side of the 100 x 100 m survey site; and
 - scat and sign searches can coincide with systematic diurnal surveys within 50 x 50 m quadrats of the survey site.

Survey Guidelines for Australia's Threatened Mammals (DSEWPC, 2011a).

The survey guidelines for Australia's Threatened Mammals (DSEWPC, 2011a) specify greater glider (southern and central) surveys should be completed by spotlighting at least 2 200 m transects per 5 ha areas. It is further recommended that there is to be 100 m between each survey transect, and bright moonlight may aid in detecting the species.

Survey Method and Effort

Greater glider (southern and central) was targeted during the field surveys through spotlighting, and habitat assessments. A total of 22 habitat assessments were conducted to determine the presence of habitat features, including foraging, breeding and dispersal habitat.

Spotlighting was conducted within and adjacent to the Project area in 2023 and 2024.

Spotlighting effort was as follows:

- post dry season:
 - 1 team of 2 people surveying for two hours across three nights; and
 - 2 teams of 2 people surveying for two hours in one night (totalling 12 person hours).
- post wet season:
 - spotlighting was conducted on Moranbah North Mine, adjacent to the Project area by 1 team of 3 people surveying for 3 hours across 2 nights.

Survey Results

Three greater glider (southern and central) individuals were recorded within the Project area during the field surveys. All individuals were recorded within eucalyptus dominated woodland along the Teviot Brook.

Habitat Assessment and Mapping Rules

Habitat mapping for the greater glider (southern and central) was undertaken using the methodology described in Section 3.4.2.2, and refined using the habitat mapping rules presented in Table 4-5.

Habitat requirements information (as presented in Table 4-5) was derived from the following sources:

- a guide to greater glider habitat in Queensland (Eyre et al., 2022);
- characteristics of tree hollows used by Australian arboreal and scansorial mammals (Goldingay, 2011); and

- conservation advice for *Petauroides volans* (greater glider (southern and central)) (DCCEEW, 2022).

In the field, ecologists performed targeted searches for evidence of greater glider (southern and central), through spotlighting, targeted searches, incidental searches and habitat assessments, specifically recording:

- present tree species;
- tree height and tree DBH;
- number of live den trees per 2 ha;
- habitat patch sizes; and
- connectivity to other habitat areas.

Additionally, vegetation assessments assisted in defining greater glider (southern and central) habitat via the identification of, or absence of, species-specific food and denning trees and criteria in relation to tree size and density at each location.

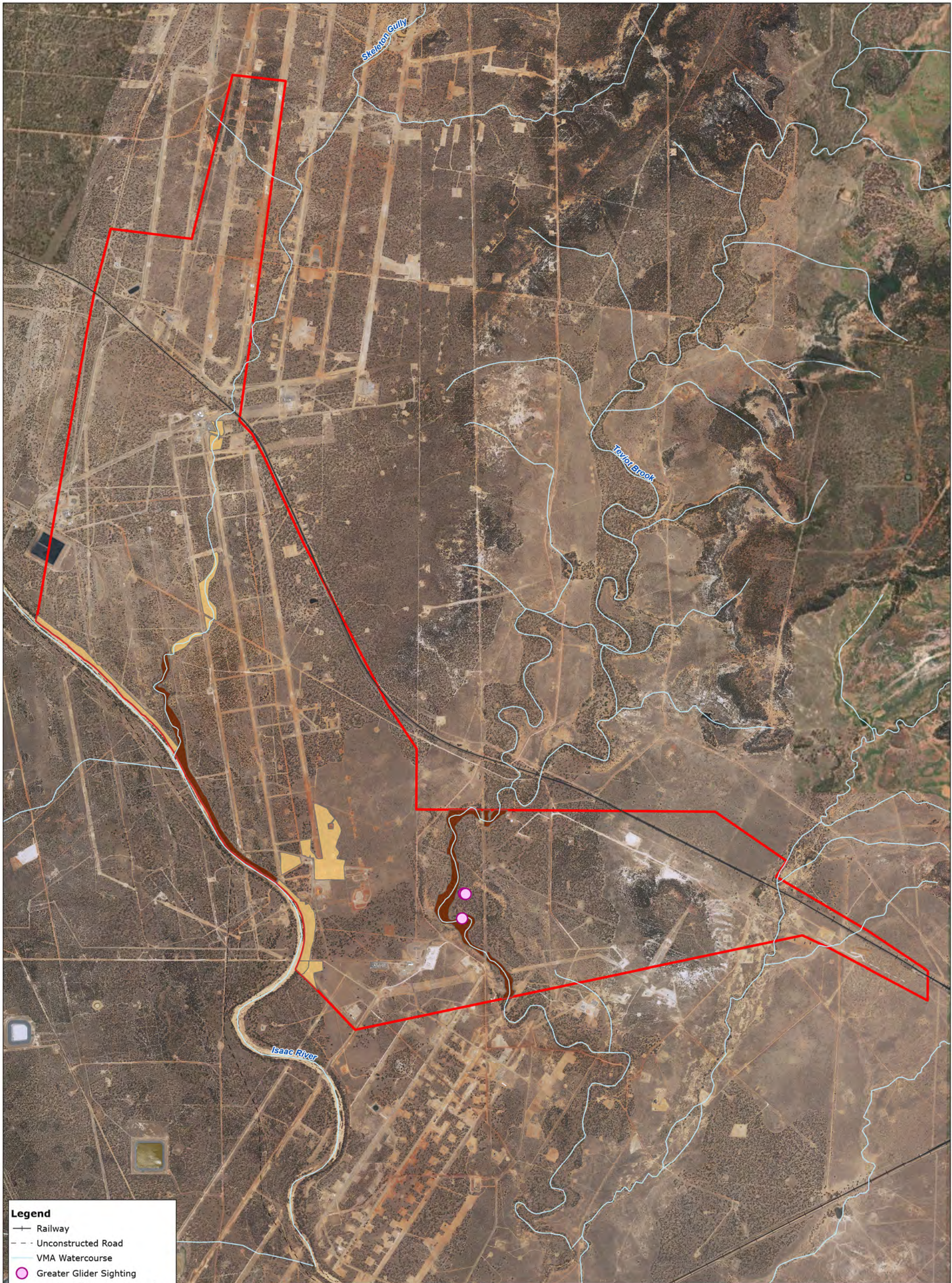
As part of the habitat mapping approach, greater glider (southern and central) habitat has been categorised into the following two components:

- denning and breeding habitat – constitutes 42.2 ha within the Project area (1.8%); and
- foraging and dispersal habitat – constitutes 55.1 ha within the Project area (2.4%).

Greater glider (southern and central) habitat is largely restricted to the riparian zones surrounding the Teviot Brook and Skeleton Gully (denning and breeding), as well as few large connecting patches of forests with suitable hollow bearing trees (foraging and dispersal), as mapped on Figure 4-4.

TABLE 4-5: GREATER GLIDER (SOUTHERN AND CENTRAL) HABITAT MAPPING RULES

Habitat Category	Habitat Requirements and Mapping Rules
Denning and breeding	<ul style="list-style-type: none"> • eucalypt woodland containing appropriate habitat attributes; • 2 – 4 live den trees for every 2 ha of suitable habitat; • tree species including: <ul style="list-style-type: none"> ◦ forest red gum (<i>E. tereticornis</i>); ◦ lemon-scented spotted gum (<i>Corymbia citriodora</i>); ◦ pink bloodwood (<i>Corymbia intermedia</i>); • live and dead stags containing hollows; • hollows typically > 10 cm diameter; and • appropriate trees > 50 cm DBH. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> • remnant RE 11.3.25; and • regrowth RE 11.3.25.
Foraging and dispersal	<ul style="list-style-type: none"> • preferred trees with DBH 30 – 50 cm DBH; • eucalyptus woodland connected to denning and breeding habitat with appropriate den trees; and • live and dead stags containing hollows.



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse
- Greater Glider Sighting
- Greater Glider Denning and Breeding Habitat
- Greater Glider Foraging and Dispersal Habitat
- ▭ Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date: 22/08/2024

Created By: MB

Drawing Size: A3

0 0.5 1Km

1:35,000

4.4 - Greater Glider (southern and central) Habitat

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.3.3.4 KOALA

Species Profile and Threats

Koala (*Phascolarctos cinereus*) is currently listed as Endangered under the EPBC Act, effective 12 February 2022 and was assessed as likely to occur during the LoO assessment.

Koala has one of the broadest distributions of threatened arboreal mammal species under the EPBC Act with a range extending from north-eastern Queensland to the south-east corner of South Australia. The biological species distribution is widespread in coastal and inland areas that extends over approximately one million square kilometres (Martin and Handasyde, 1999). The species occurrence throughout their range is dependent on numerous environmental values including specialist food, habitat availability and environmental requirements (DAWE, 2022).

Four genetically important koala populations have been identified throughout eastern Australia, including:

- Queensland and New South Wales populations north of the Clarence River Valley, New South Wales;
- south of the Clarence River Valley, New South Wales to north of the Sydney Basin;
- south of the Sydney Basin to approximately the New South Wales /Victorian border; and
- Victoria and South Australia populations.

As per the species conservation advice (DAWE, 2022), threats to the koala include:

- loss of climatically suitable habitat;
- increased intensity and frequency of drought;
- increased intensity and frequency of heatwaves;
- increased intensity and frequency of bushfire;
- declining nutritional value of foliage;
- clearing and degradation of koala habitat;
- encounter mortality with vehicles and dogs; and
- koala retrovirus (KoRV) and Chlamydia (*Chlamydia percorum*).

Species Habitat

General habitat

Whilst koala habitat varies throughout the species' distribution; however, common elements throughout include:

- the presence of one or more palatable tree species that provides reliable leaf moisture;
- complexity of habitat structure to allow the species to mitigate temperature and humidity stressors, and predator avoidance; and
- a landscape of sufficient extent to allow a widespread population to persist and interact.

Under the Conservation Advice for *Phascolarctos cinereus* (koala) combined populations of Queensland, New South Wales and the Australian Capital Territory (DAWE, 2022) habitat for the koala is described as:

'Including both coastal and inland areas that are typically characterised by eucalyptus forests and woodlands. Biophysical habitat attributes for the koala include places that contain the resources necessary for individual foraging, survival (including predator avoidance), growth, reproduction, and movement.'

Habitat critical to the survival of the species relates to the habitat the species relies on to avoid or halt decline and promote the recovery of the species. Under the EPBC Act, the following factors and other relevant factors are considered when identifying habitat that is critical to the survival of the species:

- whether the habitat is used during periods of stress (e.g., flood, drought or fire);
- whether the habitat is used to meet essential life cycle requirements (e.g., foraging, breeding, nesting, roosting, social behaviour patterns or seed dispersal processes);
- the extent to which the habitat is used by important populations;
- whether the habitat is necessary to maintain genetic diversity and long-term evolutionary development;
- whether the habitat is necessary for use as corridors to allow the species to move freely between sites used to meet essential life cycle requirements;
- whether the habitat is necessary to ensure the long-term future of the species or ecological community through reintroduction or re-colonisation; and
- any other way in which habitat may be critical to the survival of a listed threatened species or a listed TEC.

Koala food trees are typically considered to be those of the following genus: *Angophora*, *Corymbia*, *Eucalyptus*, *Lophostemon* and *Melaleuca*. Koala's move between food trees and shelter trees on a daily basis, and as such, shelter trees are considered an essential resource to the species for thermoregulation and predator evasion (DAWE, 2022). Koala's show preference for large trees, shady trees and have been observed utilising a range of tree species (e.g., *Callitris* spp., *Acacia harpophylla* and *Melaleuca bracteata*) for shelter. Additionally, koalas have been observed in lone paddock trees, showing their capacity to disperse long distances.

- koala dispersal habitat includes generalised habitats lacking an abundance of mature koala food trees (i.e., *Eucalyptus* spp., *Corymbia* spp. or *Angophora* spp.), however do meet the following criteria;
- have suitable shelter trees among scattered food trees, as *'individual koalas move daily between food and shelter trees'* (Pfeiffer et al., 2005; Tucker et al. 2007; DCCEEW, 2022); and
- occur in connective patches between foraging and breeding habitat.

Central Queensland Habitat

In Central Queensland, koala habitat is defined into preferred habitat and general habitat, with preferred habitat including:

- contiguous remnant Eucalyptus open forest and woodlands on alluvial rock where palatable food tree species occur frequently and are typically dominant. Preferred koala habitat is typically centralised around riparian forests and woodlands where forest red gum (*E. tereticornis*) and river red gum (*E. camaldulensis*) are the dominant or sub-dominant species;
- areas with $\geq 15\%$ food trees (DPIE, 2019);
- habitat trees greater than 10 cm in DBH (Youngentob et al., 2021);
- highly connected patches where trees are 30 m apart but no more than 200 m apart, and in small clumps to provide versatility to koala habitat needs (DES, 2023); and
- preferred foraging and breeding trees within Central Queensland include: Brown's box (*Eucalyptus brownii*), river red gum (*E. camaldulensis*), coolibah (*Eucalyptus coolabah*), narrow-leaved ironbark (*E. crebra*), Queensland grey ironbark (*E. drepanophylla*), Queensland peppermint (*E. exserta*), broad-leaved ironbark (*E. fibrosa*), silver-top stringybark (*E. laevopinea*), black box (*E. largiflorens*), silver-leaved ironbark (*E. melanophloia*), coastal grey box (*E. moluccana*), mountain coolibah (*E. orgadophila*), poplar box (*E. populnea*), and forest red gum (*E. tereticornis*) (Youngentob et al., 2021).

General habitat for koala in Central Queensland includes all other remnant and regrowth Eucalyptus open forest and woodland with seasonal aquifers and all other fragmented and sparsely distributed woodlands (including open woodlands), shrub lands and forests where some food tree species occur, which are connected to areas of preferred habitat. Melzer et al., (2001) elaborates on koala density within Central Queensland, which is considered generally very low, particularly where access to water is low / absent. Koalas occur in widely distributed and low populations across their range, however, elevated areas on rocky soils can often be absent of koala individuals despite *Eucalyptus* spp. being present (Melzer et al., 2001).

Koala ancillary habitat trees that are classified as species general habitat in Central Queensland include: brigalow (*Acacia harpophylla*), cooba (*A. salicina*), boree (*A. tephрина*), lemon-scented gum (*Corymbia citriodora*), Dallachy's ghost gum (*C. dallachiana*), red bloodwood (*C. erythrophloia*), pink bloodwood (*C. intermedia*), Moreton Bay ash (*C. tessellaris*), white mahogany (*E. acmenoides*), Dawson River blackbutt (*E. cambageana*), white gum (*E. platyphylla*), Thozet's box (*E. thozetiana*) and black tea-tree (*Melaleuca bracteata*) (Youngentob et al., 2021).

Species Occurrence in the Broader Area

There are no publicly available desktop records of the koala within the Project area; however, there are 10 records within 10 km, recorded between 2019 to 2020. There are an additional (approximate) 70 records within 50 km.

It should be noted that, one koala was recorded within the Grosvenor Mine in 2024, albeit outside the Project area. Additionally, a Koala individual was recently recorded within the northern section of the Moranbah North Mine by Anglo in August 2023, albeit also outside of the Project area.

This individual was recorded in open eucalyptus woodland dominated by *Eucalyptus crebra* featuring a grassy understorey and bounded by disturbed areas (refer to Appendix E for the Fauna Spotter Catcher report and Figure 4-5 for the Koala sighting location).

Field Survey Methodology and Results

Survey Guidelines

Survey guidelines for the koala are outlined in the *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (terrestrial guidelines) (Eyre et al., 2022) and *A review of koala Habitat Assessment Criteria and Methods* (Youngentob et al., 2021), as explained below.

Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (Eyre et al., 2022):

- the terrestrial guidelines specify koala surveys are to be completed by:
 - two-person, 30-minute spotlighting search of 100 x 100m survey site. This can include spotlighting up one side of the 100 x 100m survey site and then spotlighting back the other side of the 100 x 100m survey site; and
 - scat and sign searches can coincide with systematic diurnal surveys within 50 x 50m quadrats of the survey site.

A review of koala Habitat Assessment Criteria and Methods (Youngentob et al., 2021)

- the koala habitat assessment criteria and methods outline the following observation techniques effective in assessing koala presence/absence:
- direct observations:
 - transect Point Surveys – strip transects, line-transect distance sampling or double count transects, involving searching for koala in trees on both sides of pre-determined lines;
 - spotlighting – night-time spotlighting searches in smaller sites to determine species presence and density;
 - trained koala detection dogs;
 - mark-resight or mark-recapture;
 - thermal detection drones;
 - radio tracking; and
 - camera trapping in areas where fresh scats and/or scratches have been recorded.

Direct observations should be undertaken between August and January for peak activity.

- indirect observations:
 - faecal pellet (scat) surveys;
 - scats – koala rapid assessment method (KRAM);
 - scats – balanced koala scat survey (BKSS);
 - scats – spot assessment technique (SAT) involving looking at food trees for presence of koala scats;
 - scats – faecal standing crop assessment;
 - scats – trained scat detection dogs;

- scats – genetic sampling from faecal pellets;
- call playback;
- passive acoustics;
- landscape nutrition quality surveys; and
- scratches on trees.

Survey Method and Effort

Koala was targeted during the field surveys through spotlighting, koala SATs, and habitat assessments. Koala SATs occurred in conjunction with the 22 habitat assessments to determine the presence of habitat features, including foraging, breeding and dispersal habitat. Spotlighting was conducted within and adjacent to the Goonyella Rail Corridor in 2023 and 2024. Spotlighting effort was as follows:

- post dry season:
 - one team of two people surveying for two hours across three nights; and
 - two teams of two people surveying for two hours in one night (totalling in 12 person hours).
- post wet season:
 - spotlighting was conducted on adjacent to Project area by 1 team of 3 people surveying for 3 hours across 2 nights.

Generalised koala SATs were conducted at all habitat quality assessment locations where *Eucalyptus* spp. was dominant.

Survey Results

Koala was not recorded within the Project area during field surveys.

Habitat Assessment and Mapping Rules

Habitat mapping for the koala was undertaken using the methodology described in Section 3.4.2.2, and on the basis of the habitat requirements presented in Table 4-6. Habitat requirements information was derived from the following sources:

- a review of koala habitat assessment criteria and methods (Youngentob et al., 2021);
- self-assessment guideline: Assessment and management of potential impacts on koala habitat arising from state government supported infrastructure projects (DES, 2023b); and
- conservation advice for *Phascolarctos cinereus* (koala) combined populations of Queensland, New South Wales and the Australian Capital Territory (DAWE, 2022).

An analysis of the REs dominated by locally important koala trees (LIKT), as per Youngentob et al., (2021) was considered during the habitat mapping for the koala and areas where locally important food trees are present have been prioritised as habitat.

In the field, ecologists performed targeted searches for evidence of koala, through targeted searches, incidental searches, habitat assessments, specifically recording:

- present tree species;
- tree height and tree DBH;

- connectivity to other habitat areas; and
- koala habitat trees within 30 m of one another.

Additionally, vegetation assessments assisted in defining koala habitat via the identification of, or absence of, koala specific food trees.

As part of the habitat mapping approach, koala habitat has been categorised into the following two components:

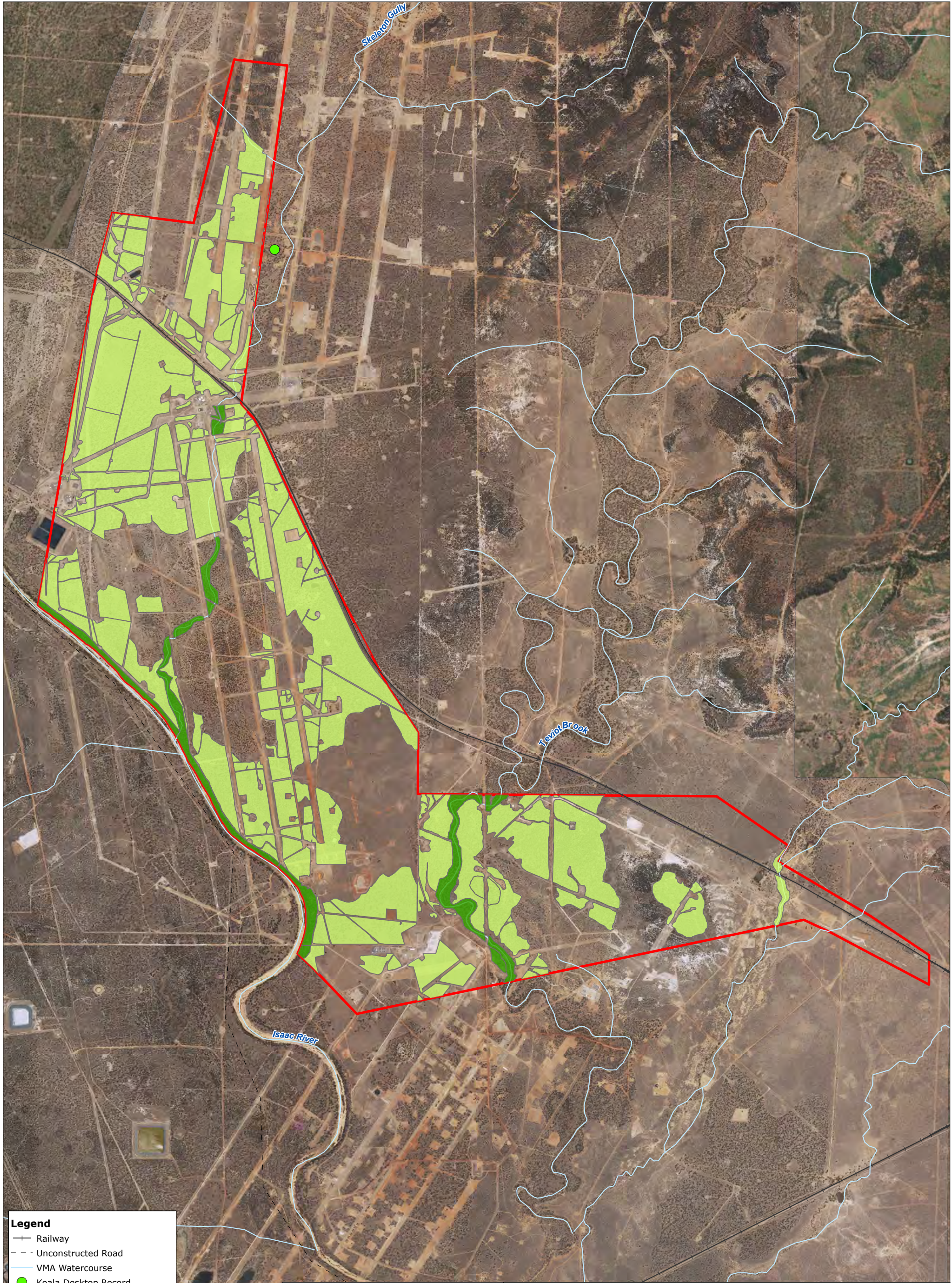
- breeding and foraging habitat – constitutes 75.4 ha within the Project area (3.2%); and
- dispersal habitat – constitutes 973.6 ha within the Project area (41.6%).

Koala breeding and foraging habitat is largely restricted to the riparian zones where suitable eucalypts are present; while dispersal habitat is scattered throughout the parts of the Project area where suitable tree species and connectivity are present (refer to Figure 4-5).

It should be noted that not all riparian areas are mapped as breeding and foraging habitat for koala, as these did not meet one or more of the species-specific habitat requirements (e.g., no LIKT species dominant / present; as per Table 4-6), as such, these areas are mapped as dispersal habitat only.

TABLE 4-6: KOALA HABITAT MAPPING RULES

Habitat Category	Habitat Requirements and Mapping Rules
Foraging and breeding	<ul style="list-style-type: none"> • contiguous remnant and high-value regrowth Eucalyptus open forest to woodlands on alluvial and/or cracked rock groundwater where LIKT species occur frequently (and are usually dominant); • remnant and regrowth Eucalyptus open forest to woodlands with more variable aquifers (often seasonal) and that have connectivity to other areas of breeding/shelter. Must incorporate one or more LIKT species of relative abundance; and • presence of: <i>Eucalyptus brownii</i>, <i>E. camaldulensis</i>, <i>E. coolabah</i>, <i>E. crebra</i>, <i>E. dura</i>, <i>E. exserta</i>, <i>E. longirostrata</i>, <i>E. melanophloia</i>, <i>E. moluccana</i>, <i>E. populnea</i>, <i>E. saligna</i> and/or <i>E. tereticornis</i>. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> • remnant and Regrowth REs on Land Zone 3; and • regrowth REs 11.5.3, 11.3.25.
Dispersal	<ul style="list-style-type: none"> • continuous corridors of native vegetation with koala habitat trees between koala habitat areas; • ideally where the trees are 30 m apart but no more than 200 m apart and in small clumps to provide versatility to meet koala's habitat needs; • presence of: <i>Corymbia citriodora</i>, <i>C. dallachiana</i>, <i>C. intermedia</i>, <i>C. tessellaris</i>, and/or <i>Eucalyptus cambageana</i>; • continuous corridors of non-native vegetation with scattered koala habitat trees between koala habitat areas; and • cleared land that contains scattered koala habitat trees between koala habitat areas. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> • remnant and regrowth REs on Land Zone 3; and • regrowth REs 11.5.3, 11.3.25.



Legend

- Railway
- - - Unconstructed Road
- VMA Watercourse
- Koala Desktop Record
- Koala Foraging and Breeding Habitat
- Koala Dispersal Habitat
- ▭ Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World


Coordinate System:
GDA2020 MGA Zone 55
Date: 27/08/2024
Created By: MB
Drawing Size: A3
0 0.5 1Km

1:35,000

4.5 - Koala Habitat

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.3.3.5 ORNAMENTAL SNAKE

Species Profile and Threats

The ornamental snake (*Denisonia maculata*) is currently listed as Vulnerable under the EPBC Act, effective 16 July 2000, and was assessed as likely to occur during the LoO assessment.

Ornamental snake occurs within the Brigalow Belt North and parts of the Brigalow Belt South biogeographical regions, with known locations throughout this region, including Moranbah (DCCEEW, 2024a). The Project area is located within the species modelled habitat distribution, as 'species or species habitat likely to occur'.

Ornamental snake populations have seen a decline over the past decades, with declines being attributed to:

- habitat loss as a result of clearing vegetation for roads, railways and pipelines etc.;
- habitat fragmentation and degradation as a result of overgrazing by livestock including cattle;
- predation by feral animals;
- toxic poisoning by ingesting Cane Toads (*Rhinella marina*);
- introduction of invasive weeds;
- alteration of landscape hydrology in and surrounding gilgai environments; and
- alteration of water quality through chemical and sediment pollution of wet areas.

Species Habitat

General habitat

Within the species' distribution, the ornamental snake inhabits woodlands and open forests associated with moist areas, particularly gilgai mounds and depressions, as this habitat is favoured by the species prey (frogs). Additionally, the species is known to occupy lake margins and wetlands.

Ornamental snake is likely to be recorded in vegetation communities dominated by Brigalow (*Acacia harpophylla*), Coolibah (*Eucalyptus coolabah*), Gidgee (*Acacia cambagei*) and Blackwood (*Acacia argyrodendron*), or grasslands associated with gilgai (Brigalow Belt Reptiles Workshop, 2011). The species is known to occur in the following REs, RE 11.4.3, RE 11.4.6, Re 11.4.8, Re 11.4.9, RE 11.3.3 and RE 11.5.16.

Within their preferred habitats, ornamental snake resides in logs and under coarse woody debris and ground litter (Brigalow Belt Reptiles Workshop, 2011).

Central Queensland habitat

In Central Queensland, ornamental snake habitat is defined into preferred habitat and general habitat.

Preferred ornamental snake habitat includes:

- gilgai depressions, mounds and wetlands on cracking clays (land zone 4), and is particularly reliant on microhabitat features (i.e., logs, coarse woody debris, ground timber and ground litter) (DCCEEW, 2024a). Preferred habitat includes habitat patches that are typically > 10 ha in area and are within, or connected to, larger areas of remnant vegetation (DCCEEW, 2024a). Additionally, preferred habitat in Central Queensland requires seasonal flooding of habitat areas.

Marginal ornamental snake habitat includes:

- dispersal areas within 1 km of preferred habitat, particularly areas dominated by brigalow (*Acacia harpophylla*) and coolibah (*Eucalyptus coolabah*). Marginal habitat consists of areas where gilgai and/or soil cracks are shallow and infrequent. Non-remnant areas where threats are medium-high, for example weed invasion and cattle compacting soils; however, the species has the potential to occur.

Species Occurrence in the Broader Area

There are no publicly available desktop records of the species within the Project area. There are 20 publicly available desktop records of the species within 10 km, recorded between 2003 – 2023.

Field Survey Methodology and Results

Survey Guidelines

The *Survey Guidelines for Australia's Threatened Reptiles* (DSEWPC, 2011b) specify recommended survey approaches for ornamental snake include searches in suitable gilgai habitat whilst frogs are active. Survey methods should include driving roads at night, particularly following wet weather conditions, diurnal searches under shelter sites, pitfall, and funnel trapping methods, however these are all likely to yield low returns (DSEWPC, 2011b).

There are currently no known survey methods to reliably detect ornamental snake during dry seasons.

Survey Method and Effort

Ornamental snake was targeted during the field surveys through reptile meanders, habitat assessments and spotlighting. A total of 22 habitat assessments were conducted to determine the presence of habitat features, including foraging, breeding and dispersal habitat. Reptile searches were undertaken by searching under overturned rocks, behind bark, and through leaf litter. Reptile meanders were undertaken in conjunction with habitat assessments, at each habitat assessment locations within brigalow regrowth and brigalow woodland. Thus, a total of three reptile meanders were conducted, including two within mapped ornamental snake habitat, for a total of 20 minutes each (totalling 1 person-hour).

Spotlighting was conducted within and adjacent to the Project area in 2023 and 2024. Spotlighting effort was as follows:

- post dry season:
 - one team of two people surveying for two hours across three nights; and

- two teams of two people surveying for two hours in one night (totalling in 12 person hours).
- post wet season:
 - spotlighting was conducted on Moranbah North Mine, adjacent to the Goonyella Rail Corridor by 1 team of 3 people surveying for 3 hours across 2 nights.

Spotlighting was undertaken for ornamental snake by driving roads at night; however targeted spotlighting in brigalow habitats with gilgai was not undertaken in the Project Area.

Spotlighting within brigalow woodland with gilgai was not undertaken as gilgai was dry at the time of the survey, and as such, prey species (frogs) were not abundant and snake activity is assumed lower. Majority of vehicle spotlighting within the Project Area was undertaken in eucalypt woodland.

Survey Results

Ornamental snake was not recorded within the Project area during field surveys.

Habitat Assessment and Mapping Rules

Habitat mapping for the ornamental snake was undertaken using the methodology described in Section 3.4.2.2, and on the basis of the habitat requirements presented in Table 4-7. Species-specific habitat requirements information was derived from the following sources:

- Approved Conservation Advice for *Denisonia maculata* (ornamental snake) (DoE, 2014); and
- Draft referral guidelines for the nationally listed Brigalow Belt reptiles (DSEWPC, 2011c).

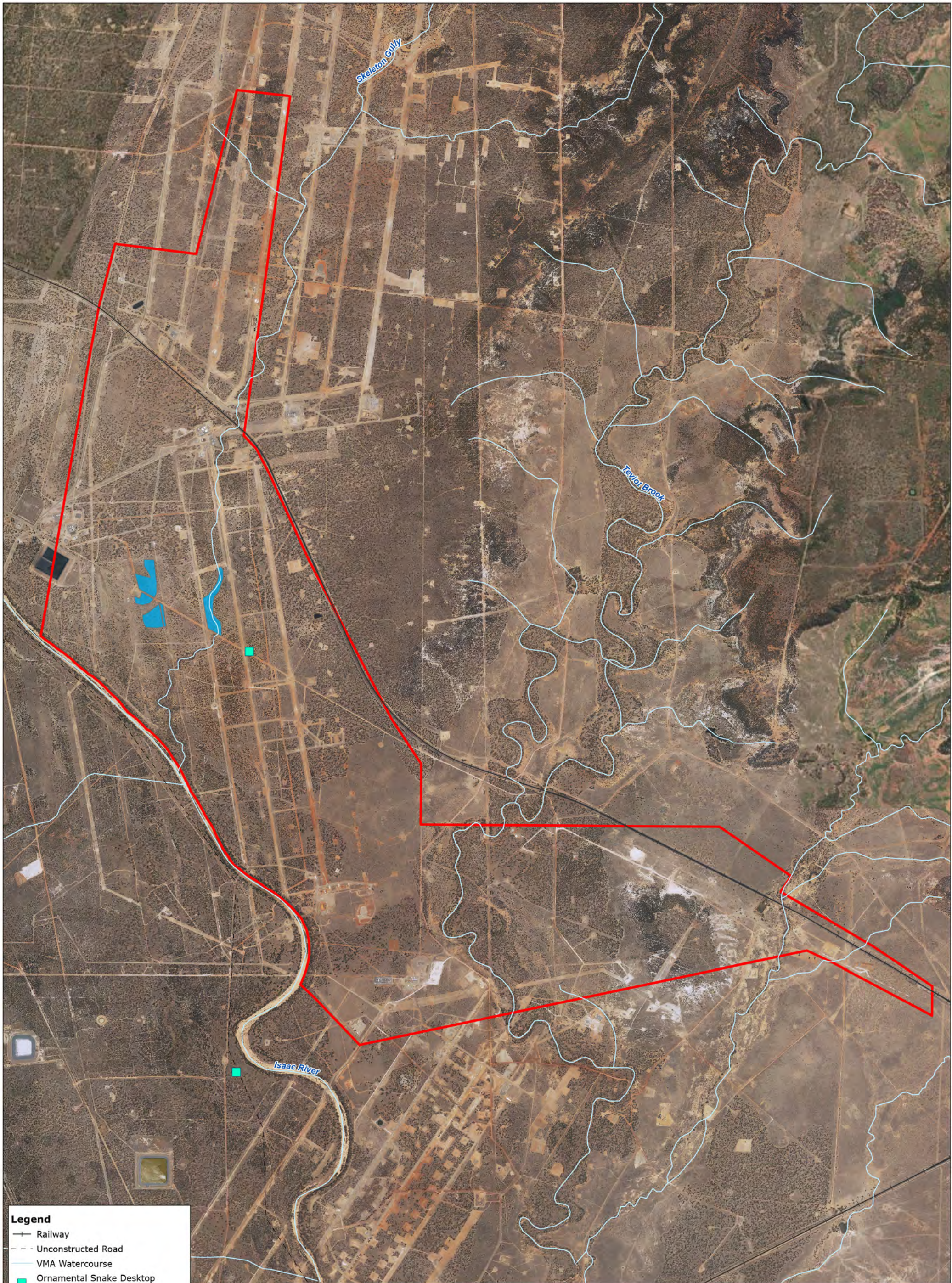
In the field, ecologists performed in-depth searches for ornamental snake microhabitat features, including evidence of gilgai mounds and depressions at each habitat assessment location, recording the abundance of woody debris present, the presence/absence of soil cracks and depth of cracks, and whether the habitat location was prone to seasonal flooding.

Foraging and dispersal habitat, as well as refuge habitat for ornamental snake was identified within the Project area; however, where refuge habitat features were observed, these were deemed to be of a quality consistent with foraging habitat as per the habitat rules specified in Table 4-7. Consequently, the Project area contains a total of 16.3 ha of foraging and dispersal habitat (0.7%). Ornamental snake habitat is restricted to five patches within the Goonyella Rail Corridor, as mapped in Figure 4-6.

TABLE 4-7: ORNAMENTAL SNAKE HABITAT MAPPING RULES

Habitat Category	Habitat Class	Habitat Requirements and Mapping Rules
Foraging and dispersal habitat	Preferred habitat / High quality habitat	<ul style="list-style-type: none"> • Open forests and woodlands in moist areas, particularly gilgai mounds and depressions (considered important habitat) (RE LZ 4); • lake margins and wetlands; • gilgai formations where deep-cracking alluvial soils with high clay content occur; • ground truthed REs 11.4.3, 11.4.6, 11.4.8, 11.4.9;

Habitat Category	Habitat Class	Habitat Requirements and Mapping Rules
		<ul style="list-style-type: none"> • brigalow (<i>Acacia harpophylla</i>) dominated vegetation communities; • gidgee (<i>Acacia cambagei</i>) dominated vegetation communities. • blackwood (<i>Acacia argyrodendron</i>) dominated vegetation communities; • coolibah (<i>Eucalyptus coolabah</i>) dominated vegetation communities; • pure grassland associated with gilgais; and • habitat patches are typically greater than 10 hectares in area and are within, or connected, to larger areas of remnant vegetation.
	General habitat / low quality habitat	<ul style="list-style-type: none"> • Ground truthed REs 11.3.3, 11.3.25 and 11.5.16; and • gilgai mounds and depressions in non-acacia or brigalow woodlands.
Refuge habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> • Within soil cracks on gilgai mounds in ground truthed REs 11.4.3, 11.4.6, 11.4.8, 11.4.9; and • within soil cracks on gilgai mounds in Brigalow (<i>Acacia harpophylla</i>), Gidgee (<i>Acacia cambagei</i>), Blackwood (<i>Acacia argyrodendron</i>), Coolibah (<i>Eucalyptus coolabah</i>).



Legend

- Railway
- - - Unconstructed Road
- VMA Watercourse
- Ornamental Snake Desktop Record
- Ornamental Snake Foraging and Dispersal Habitat (Preferred / High quality habitat)
- Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date: 22/08/2024

Created By: MB

Drawing Size: A3


0 0.5 1Km

1:35,000

4.6 - Ornamental Snake Habitat

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.3.3.6 SQUATTER PIGEON (SOUTHERN)

Species Profile and Threats

The squatter pigeon (southern) (*Geophaps scripta scripta*) is currently listed as Vulnerable under the EPBC Act, effective 16 July 2000, and was assessed as known to occur during the LoO assessment due to previous records. Additionally, squatter pigeon (southern) was recorded at multiple sites and on numerous occasions during the field surveys.

Squatter pigeon (southern) is distributed from the Burdekin-Lynd divide in the Cape York Peninsula and south to the Queensland/New South Wales border. Across this north-south range, the species is distributed inland to Hughenden, Longreach, and Charleville in Queensland. The Project area is located within the species modelled habitat distribution, as 'species or species habitat likely to occur'.

The species conservation advice (TSSC, 2015) lists potential threats to the squatter pigeon (southern), including:

- Historical threats:
 - habitat loss and degradation;
 - predation; and
 - hunting.
- Current threats:
 - habitat loss and fragmentation as a result of clearing for agricultural purposes;
 - habitat degradation as a result of overgrazing by domesticated herbivores, particularly sheep (*Ovis* sp.) and cattle (*Bos taurus*);
 - habitat degradation through the introduction and invasion of weed species, particularly buffel grass (*Cenchrus ciliaris*);
 - predation by avian and terrestrial predators, including birds, snakes, dingo (*Canis lupus dingo*), European red fox (*Vulpes vulpes*) and feral cats (*Felis catus*); and
 - extreme environmental conditions including bushfires and drought.

Species Habitat

General habitat

Within its range, the squatter pigeon (southern) typically inhabits open forests to sparse, open woodlands and scrub dominated by a eucalyptus, corymbia, acacia or callitris overstorey, and remnant, regrowth, or partly modified vegetation communities. Suitable habitat for the squatter pigeon (southern) must be located within 3 km (foraging and dispersal habitat) or within 1 km (breeding habitat) of a water source or water body.

The species is unlikely to occur large distances away from wooded vegetation as predation rates by predatory birds are higher in open areas (Squatter Pigeon Workshop, 2011). Squatter pigeon (southern) is almost always observed within reasonable proximity to water (TSSC, 2015).

The species conservation advice describes an important sub-population of the squatter pigeon (southern) to be 'all of the relatively small, isolated and sparsely distributed sub-populations occurring south of the Carnarvon Ranges in Central Queensland' (Squatter Pigeon Workshop, 2011). As per the definition, important populations of the species include, but are not limited to:

- Populations in the Condamine River Catchment and Darling Downs of southern Queensland;
- populations known to occur in the Warwick-Inglewood-Texas region of southern Queensland; and
- any population potentially occurring in northern New South Wales.

Central Queensland habitat

Species Occurrence in the Broader Area

There are no publicly available desktop records for squatter pigeon (southern) within the Project area; however, there are eight desktop records within 10 km, recorded between 2014 – 2023.

Additionally, the species was recorded within the Grosvenor Mine (36 individuals) and Moranbah North Mine (14 individuals) adjacent to the Project area during the field surveys in 2023 and 2024.

Field Survey Methodology and Results

Survey Guidelines

Survey guidelines for the squatter pigeon (southern) are outlined in the *Survey Guidelines for Australia's Threatened Birds* (DEWHA, 2010), and include area searches or transect surveys in suitable habitat. Additionally, flushing surveys are considered likely to be useful, however are not the preferable method.

Optimal survey conditions for detecting the squatter pigeon (southern) are during the mid to late dry season, being May to the end of October, as the species is readily foraging for grass seed (Squatter Pigeon Workshop, 2011). Juvenile squatter pigeon (southern) is predominantly detected during June.

Survey Method and Effort

Squatter pigeon (southern) was targeted during the field surveys at four bird survey locations, through bird surveys, roaming bird surveys and habitat assessments. At each bird survey location, area searches of 500 m, point surveys and resource or habitat target searches were conducted to determine presence and habitat suitability. Roaming bird surveys were conducted between survey areas. Additionally, a total of 22 habitat assessments were conducted to determine the presence of habitat features, including nests and roosting sites.

Survey Results

Six individuals were recorded within the Project area during field surveys, all of which were recorded along dirt tracks.

Habitat Assessment and Mapping Rules

Habitat mapping for squatter pigeon (southern) was undertaken using the methodology described in Section 3.4.2.2, and on the basis of the habitat requirements presented in Table 4-8. Species-specific habitat requirements information was derived from the following sources:

- species Profile and Threats Database (DoE, 2014); and
- conservation advice *Geophaps scripta scripta* (squatter pigeon (southern)) (TSSC, 2015).

As part of the habitat mapping approach, squatter pigeon (southern) habitat has been categorised into the following four components:

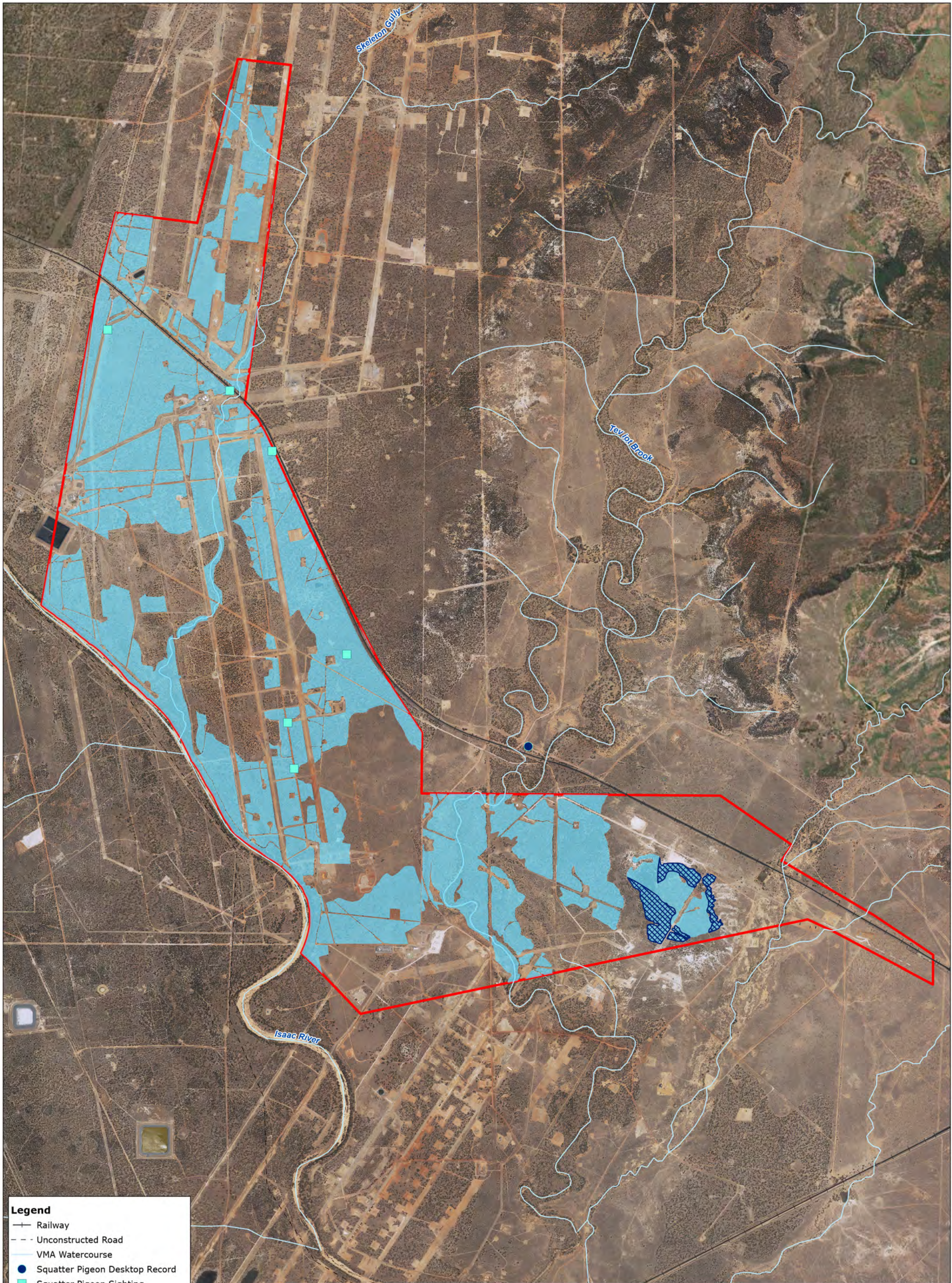
- breeding habitat – preferred habitats within 1 km of a suitable permanent waterbody, and constitutes 22.8 ha within the Project area (1%);
- foraging and dispersal habitat – preferred habitat within 3 km of a permanent or seasonal waterbody and constitutes 1,046.5 ha within the Project area (44.7%);
- dispersal habitat – areas of suitable habitat that are not considered breeding, foraging and dispersal habitat, and have been included in the above foraging and dispersal habitat calculation; and
- waterbodies – include all natural, permanent, and seasonal waterbodies, including rivers, streams, and farm dams. Lined waterbodies within the Project area are not included as suitable habitat for the species.

Squatter pigeon (southern) habitat is largely scattered throughout the Project area, particularly where waterbodies are present, as mapped in Figure 4-7.

TABLE 4-8: SQUATTER PIGEON (SOUTHERN) HABITAT MAPPING RULES

Habitat Category	Habitat Class	Habitat Requirements and Mapping Rules
Breeding habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> • Open forest to woodland communities with bare ground visible. Patchy native tussock grass understory or mix of perennial tussock grasses and low shrubs/forbs within 1 km of permanent water source; • dominated overstorey of <i>Eucalyptus</i> spp., <i>Corymbia</i> spp., <i>Acacia</i> spp. or <i>Callitris</i> spp. within 1 km of permanent water source; and • ground vegetation of native, perennial tussock grasses or a mix of perennial tussock grasses and low shrubs or forbs rarely exceeding 33% of the ground area, with the remaining consisting of gravelly/dusty soil and lightly covered in leaf litter and coarse woody debris within 1km of permanent water source. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> • Remnant RE 11.3.2, 11.3.25, 11.5.3, 11.5.9, and 11.7.2 within 1km of permanent water source using aerial imagery.
Foraging and dispersal habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> • Open forest to woodland communities with bare ground visible. Patchy native tussock grass understory or mix of perennial tussock grasses and low shrubs/forbs within 3 km of permanent and ephemeral water sources;

Habitat Category	Habitat Class	Habitat Requirements and Mapping Rules
		<ul style="list-style-type: none"> dominated overstory of <i>Eucalyptus</i> spp., <i>Corymbia</i> spp., <i>Acacia</i> spp. or <i>Callitris</i> spp. within 3 km of permanent and ephemeral water sources; and ground vegetation of native, perennial tussock grasses or a mix of perennial tussock grasses and low shrubs or forbs rarely exceeding 33% of the ground area, with the remaining consisting of gravelly/dusty soil and lightly covered in leaf litter and coarse woody debris within 3km of permanent water source. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> Remnant RE 11.3.2, 11.3.7, 11.3.25, 11.5.3, 11.5.9, and 11.7.2 within 1km of permanent or seasonal water source.
Waterbodies	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> All natural, permanent, and seasonal waterbodies, including rivers, streams and farm dams.



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse
- Squatter Pigeon Desktop Record
- Squatter Pigeon Sighting
- ▨ Squatter Pigeon Breeding Habitat
- Squatter Pigeon Foraging and Dispersal Habitat
- ▭ Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55
Date: 22/08/2024
Created By: MB
Drawing Size: A3
0 0.5 1Km



4.7 - Squatter Pigeon (southern) Habitat

Goonyella Rail - Baseline Ecological Assessment Report
Client: Anglo American Steelmaking Coal Pty Ltd



4.3.4 LISTED MIGRATORY SPECIES

One EPBC Act listed migratory species was assessed as likely to occur within the Project area, being the glossy ibis (refer to Section 4.3.4.1).

4.3.4.1 GLOSSY IBIS

Species Profile and Threats

The glossy ibis (*Plegadis falcinellus*) is currently listed as Migratory and Marine under the EPBC Act and was assessed as having the potential to occur during the LoO assessment.

Glossy ibis is a migrant to Australia, occurring east of the Kimberley's (Western Australia) and Eyre Peninsula (South Australia), rarely occurring in Tasmania.

As per the species SPRAT profile (DCCEEW, 2024b), threats to glossy ibis in Australia include:

- Wetland destruction or degradation;
- human activities - Water diversion and drainage (restricting areas of shallow water), irrigation and hydroelectric power production damages suitable foraging and breeding habitat;
- habitat modification due to clearing, grazing, burning, increased salinity and groundwater extraction;
- invasion of weeds and exotic fish species;
- hunting; and
- pesticides.

Species Habitat

General habitat

Within its Australian distribution, glossy ibis inhabits freshwater marshes along the edge of rivers, lakes, lagoons, flood plains, wet meadows, swamps, sewage ponds, reservoirs, and cultivated areas under irrigation for foraging and breeding (DCCEEW, 2024b). Additionally, glossy ibis may occasionally inhabit wooded swamps, artificial wetlands, and mangroves for breeding (Chatto 2000 and Marchant & Higgins 1990).

Glossy ibis has a restricted breeding distribution, with majority of breeding records occurring at the following locations:

- Murray Darling Basin (northern New South Wales);
- western Riverina (New South Wales / Victoria);
- wider south-east South Australia;
- Channel Country of Queensland / South Australia (wetlands of the Bulloo, Diamantina and Georgina River systems); and
- Lower Ord / Keep Rivers (Western Australia and Northern Territory).

Central Queensland Habitat

Within Central Queensland, glossy ibis habitat has been defined into preferred habitat and marginal habitat.

Preferred habitat for glossy ibis includes:

- Freshwater marshes at the edges of rivers and lakes, lagoons, floodplains, swamps, wet meadows, reservoirs, sewage ponds, as well as cultivated areas under irrigation.

Marginal habitat is defined as:

- Ephemeral streams and watercourses.

Breeding habitat for the glossy ibis does not occur in Central Queensland.

Species Occurrence in the Broader Area

There are no publicly available desktop records of glossy ibis within the Project area, or within 10 km. There is one record of the species within 50 km, recorded in 2001 in cleared, non-native vegetation.

It should be noted that the species has been recorded in both adjacent to the Project area within the Moranbah North Mine and Grosvenor Mine, respectively during field surveys in 2023 and 2024.

Field Survey Methodology and Results

Survey Guidelines

There are no targeted survey guidelines for the glossy ibis.

Survey Method and Effort

Bird surveys were undertaken at a total of four survey locations and roaming bird surveys occurred across the Project area. Bird surveys at each survey location involved area searches of 500 m, point surveys and resource or habitat target searches. Roaming bird surveys were conducted between survey areas. Additionally, a total of 22 habitat assessments were conducted across the survey periods to determine the presence of habitat features, including nests and roosting sites.

Survey Results

Glossy ibis was not recorded within the Project area.

Habitat Assessment and Mapping Rules

Habitat mapping for the glossy ibis within the Project area was undertaken using the methodology described in Section 3.4.2.2, and on the basis of the habitat requirements presented in Table 4-9. Species-specific habitat requirements information was derived from the SPRAT (DCCEEW, 2024b).

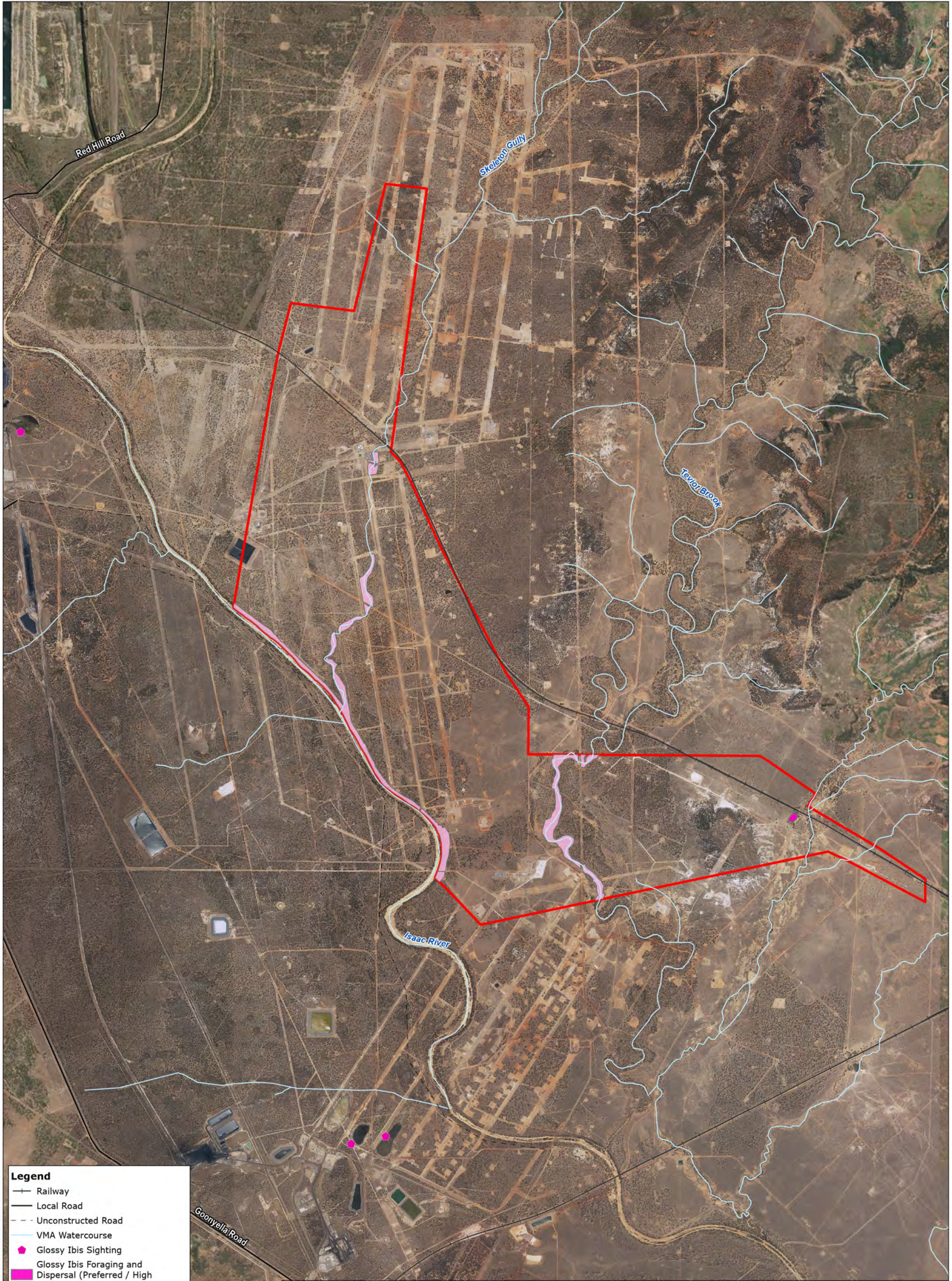
Field surveys noted the absence of roosting habitat features required to constitute glossy ibis roosting habitat, and as such, only foraging and dispersal habitat has been mapped for the species. Foraging and dispersal habitat includes those areas of ponded wetlands, permanent and ephemeral wetlands and waterbodies (including lakes, rivers etc.) and has been categorised into the following two components:

- Preferred foraging and dispersal habitat – 0.9 ha within the Project area (<0.1%); and
- marginal foraging and dispersal habitat – 73.8 ha within the Project area (3.2%).

Glossy ibis habitat is largely restricted to the surrounding areas of the ephemeral waterbodies including the bordering Isaac River, the Teviot Brook, Skeleton Gully and tributaries, as well as permanent waterbodies (farm dams), as mapped on Figure 4-8.

TABLE 4-9: GLOSSY IBIS HABITAT MAPPING RULES

Habitat Category	Habitat Class	Habitat Requirements and Mapping Rules
Roosting habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> Roosting in trees/shrubs nearby occupied waterbodies. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> Remnant RE 11.3.25; and regrowth RE 11.3.25.
Foraging and dispersal habitat	Preferred habitat / high quality habitat	<ul style="list-style-type: none"> Freshwater marshes at edges of lakes, rivers, lagoons, floodplains, swamps, wet-meadows, reservoirs, sewage ponds, cultivated areas under irrigation; and permanent wetlands and waterbodies. <p>The following RE was mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> Remnant RE 11.3.27f.
	Marginal habitat / low quality habitat	<ul style="list-style-type: none"> Ephemeral streams and watercourses. <p>The following REs were mapped where the above habitat requirements occur (as a result of ground-truthing):</p> <ul style="list-style-type: none"> Remnant RE 11.3.25; and regrowth RE 11.3.25.



Legend

- Railway
- Local Road
- - - Unconstructed Road
- VMA Watercourse
- ◆ Glossy Ibis Sighting
- Glossy Ibis Foraging and Dispersal (Preferred / High quality habitat)
- Glossy Ibis (Foraging and Dispersal (Marginal / Low quality habitat)
- ▭ Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55
Date: 22/08/2024
Created By: MB
Drawing Size: A3
0 0.5 1Km
1:45,000

4.8 - Glossy Ibis Habitat

Gooniyella Rail - Baseline Ecological Assessment Report
Client: Anglo American Steelmaking Coal Pty Ltd



4.3.4.2 MIGRATORY FLYWAYS

There are no documented migratory flyways occurring over the Project area. There are a total of eight pathways utilised by migratory birds globally. Migratory birds travelling to, from and within Australia generally utilise the East Asia / Australasia Flyway route (BirdLife International, 2020). This Flyway extends from Arctic Russia and Northern America to the southernmost regions of Australia and New Zealand, occurring over 37 countries (including Australia) and covering a Flyway area of 84,765,020 km² (BirdLife International, 2020). The East Asia / Australasia Flyway is utilised by a total 492 migratory birds (BirdLife International, 2020). In Australia, the East Asia / Australasia Flyway generally traverses over the coastal regions, however, may occur inland in Western Australia and South Australia (BirdLife International, 2020).

Important Bird and Biodiversity Areas (IBAs) are defined as globally important areas for the protecting bird populations (including migratory species) through the use of internationally agreed upon criteria. The East Asia / Australasia Flyway intersects 1,184 migratory IBAs (BirdLife International, 2020), of which, none are known to occur within, or within close proximity to either the Moranbah North Mine, or the Grosvenor Mine. As such, it can be concluded that the Project area does not intersect an important flyway or IBA for migratory birds.

4.3.5 WEEDS OF NATIONAL SIGNIFICANCE

Two introduced flora species listed as a Weed of National Significance (WoNS) and listed under the *Queensland Biosecurity Act 2014* are known to occur, including rubber vine (*Cryptostegia grandiflora*) and velvety prickly-pear (*Opuntia tomentosa*).

Category 3 restricted invasive species under the *Biosecurity Act 2014* must not be given away, sold, or released into the environment. Local government biosecurity plans may also need to be consulted to determine any local measures that should be adopted for management.

The Australian Weeds Strategy (2017-2027) provides information on the best practices for management of WONS, including prevention and early detection of weeds and the minimisation of the impact of established weeds (Invasive Plants and Animals Committee, 2016). Such principles from the Australian Weed Strategy should be considered as part of a Biosecurity Management Plan relevant to the Project.

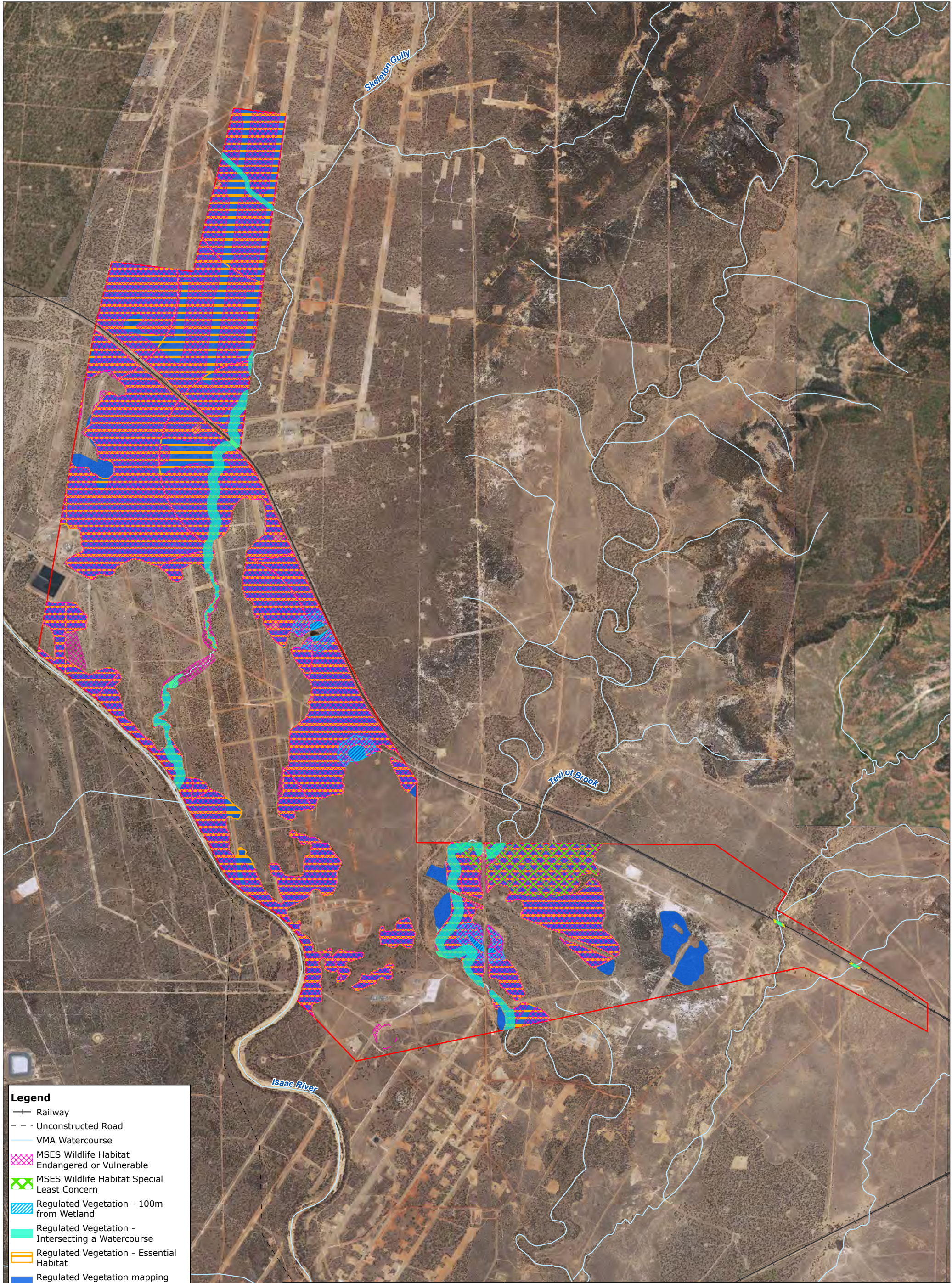
4.4 MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE

The MSES within the Project area is summarised in Table 4-10, shown in Figure 4-9 and further described in Section 4.4.1 – Section 4.4.7.

TABLE 4-10: SUMMARY OF MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE

Prescribed Terrestrial Matter	Relevance to the Proposed Action
Regulated Vegetation	<p>The Goonyella Rail Corridor contains the following regulated vegetation:</p> <ul style="list-style-type: none"> • Regulated vegetation – category B (endangered or of concern); • regulated vegetation – category R (GBR riverine); • regulated vegetation – essential habitat; • regulated vegetation – defined watercourse; and

Prescribed Terrestrial Matter	Relevance to the Proposed Action
	<ul style="list-style-type: none"> regulated vegetation – 100 m from wetland.
Connectivity Areas	Regulated vegetation represents part of a connectivity area.
Wetland Areas	There are no high ecological significant wetlands within the Project area or within 50 km.
Conservation Areas	There are no MSES conservation areas (estates, marine parks, special wildlife reserves, nature refuges, fish habitat areas or legally secured offset areas) within the Project area, or within 50 km.
Designated Precincts in Strategic Environmental Areas	In accordance with the DAMS mapping, no regional interest areas are recorded over the Project area. This mapping is in accordance with the <i>Regional Planning Interests Act 2014</i> which governs the framework for Strategic Environmental areas.
Protected Wildlife Habitat	<p>The Project area contains:</p> <ul style="list-style-type: none"> MSES wildlife habitat (endangered or vulnerable); and MSES wildlife habitat (special least concern). <p>Additionally, following field surveys, the Goonyella Rail Corridor contains habitat for:</p> <ul style="list-style-type: none"> Australian painted snipe – listed as endangered under the NC Act; greater glider (southern and central) – listed as endangered under the NC Act; koala – listed as endangered under the NC Act; ornamental snake – listed as vulnerable under the NC Act; squatter pigeon (southern) – listed as vulnerable under the NC Act; and short-beaked echidna – listed as special least concern under the NC Act. <p>The Project area is not intersected by protected plant high risk areas, sea turtle nesting areas or SEQ koala habitat. Additionally, no MSES flora were identified during field surveys.</p>
Protected Areas	There are no protected areas of Queensland (e.g., national parks, conservation parks, reserves, state forests etc.) located within the Project area, or within 50 km.
Legally Secured Offset Areas	There are no legally secured offset areas within the Project area.



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse
- ▨ MSES Wildlife Habitat Endangered or Vulnerable
- ▧ MSES Wildlife Habitat Special Least Concern
- ▨ Regulated Vegetation - 100m from Wetland
- ▨ Regulated Vegetation - Intersecting a Watercourse
- ▨ Regulated Vegetation - Essential Habitat
- ▨ Regulated Vegetation mapping Category B
- ▨ Regulated Vegetation mapping Category C
- ▨ Regulated Vegetation mapping Category R

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55
Date: 27/08/2024
Created By: MB
Drawing Size: A3
0 0.5 1Km
1:35,000

4.9 - MSES Mapping

Goonyella Rail - Baseline Ecological Assessment Report
Client: Anglo American Steelmaking Coal Pty Ltd



4.4.1 REGIONAL ECOSYSTEMS, REGULATED VEGETATION AND ESSENTIAL HABITAT

4.4.1.1 REGULATED VEGETATION

The VM Act distinguishes between vegetation that is Endangered, Of Concern, or Least Concern. REs are Queensland vegetation communities found within a particular bioregion that have a consistent combination of geology, landform, and soil type, as determined by the Queensland Herbarium.

Regulated Vegetation – Endangered and Of Concern REs

REs are vegetation communities that are consistently associated with a particular combination of geology, landform and soil in a bioregion. REs – Endangered and Of Concern REs are categorised into two categories:

- Endangered REs – defined as:
 - the area of remnant vegetation is less than 10% of the pre-clearing extent of the RE; or
 - the area of remnant vegetation is 10–30% of the pre-clearing extent of the RE, and less than 10,000 ha.
- of concern REs – defined as:
 - the area of remnant vegetation is 10–30% of the pre-clearing extent of the RE; or
 - the area of remnant vegetation is more than 30% of the pre-clearing extent of the RE, and less than 10,000 ha.

The Project area intersects both Endangered and Of Concern REs (as presented in Table 4-12).

Regulated Vegetation – Defined Watercourse

Regulated vegetation (defined watercourse) is defined as Category B areas located within a defined distance from the defining banks of a relevant watercourse identified on the vegetation management watercourse and drainage feature map (DES, 2020b).

The QLD Environmental Offsets Policy 2014 (DESI, 2023) defines the distance from defining banks of watercourses and drainage features within the Brigalow Belt Bioregion as:

- Stream order 1 or 2 watercourses – 25 m;
- Stream order 3 or 4 watercourses – 50 m; and
- Stream order 5 or greater watercourses – 100 m.

As per the mapping, the Project area is intersected by regulated vegetation (defined watercourse) stream orders 2, 3 and 4, and therefore, defining distances include 25 m and 50 m (refer to Figure 4-9).

Regulated Vegetation – 100 m from Wetland

Regulated vegetation (100 m from wetland) is defined as Category B areas located within 100 metres from the defining bank of a wetland identified on the vegetation management wetlands map (DES, 2020b). As per the mapping, five areas of regulated vegetation (100 m from wetland) are located within the Project area (refer to Figure 4-9).

4.4.1.2 PROTECTED WILDLIFE HABITAT

Essential Habitat

Essential habitat identifies habitat for endangered, vulnerable, and near threatened wildlife, also known as 'protected wildlife' and is prescribed under the NC Act (DES, 2020b). Essential habitat is also defined under Section 20AC of the *Vegetation Management Act 1999*. The Project area contains 1,052.2 ha of essential habitat, as mapped in Figure 4-10.

Flora Trigger Areas

The Flora Survey Trigger Map identifies high-risk areas where threatened or near-threatened native plants are present or are likely to be present. the Desktop mapping shows the Project area is not intersected by any trigger areas for NC Act listed threatened flora species, and no protected flora were recorded during the field surveys.

Habitat for Fauna

The desktop assessment identified the presence of the following MSES wildlife habitat within the Project area:

- MSES wildlife habitat (endangered or vulnerable) – 985.7 ha; and
- MSES wildlife habitat (special least concern) – 58.3 ha.

Following field surveys and habitat mapping, habitat for the following six NC Act listed threatened fauna species was mapped within the Project area:

- Australian painted snipe – listed as endangered under the NC Act, with 73.8 ha of habitat (refer to Section 4.3.3.2 and Figure 4-3);
- greater glider (southern and central) – listed as endangered under the NC Act, with 42.2 ha of breeding habitat and 55.1 ha of foraging and dispersal habitat (refer to Section 4.3.3.3 and Figure 4-4);
- koala – listed as endangered under the NC Act, with 75.4 ha of breeding habitat and 973.6 ha of foraging and dispersal habitat (refer to Section 4.3.3.4 and Figure 4-5);
- ornamental snake – listed as vulnerable under the NC Act, with 16.3 ha of refuge habitat (refer to Section 4.3.3.5 and Figure 4-6);
- squatter pigeon (southern) – listed as vulnerable under the NC Act, with 22.8 ha of breeding habitat and 1,046.5 ha of foraging and dispersal habitat (refer to Section 4.3.3.6 and Figure 4-7); and
- short-beaked echidna – listed as special least concern under the NC Act, with 1,823.5 ha of habitat (refer to Section 4.4.3.1 and Figure 4-12).

4.4.1.3 ENVIRONMENTALLY SENSITIVE AREAS

The desktop assessment identified the presence of Category B – Endangered or Of Concern ESAs and Category R – GBR riverine ESAs within the Project area. Field verification of environmentally sensitive areas occurred during both the post dry and post wet seasons through the verification of ground-truthed REs (refer to Figure 4-9).

4.4.1.4 REGIONAL ECOSYSTEMS

The desktop assessment identified 10 REs. A summary of each of the REs from the State Regulated Vegetation Map, including their description, biodiversity status, area in hectares and the percentage (%) of the Project area occupied, is presented in Table 4-11 and Figure 4-10.

REs have been field-verified through ground-truthing surveys, including quaternary and BioCondition surveys. These ground-truthed REs are summarised in Table 4-12 and are presented in Figure 4-11.

TABLE 4-11: DESKTOP REGIONAL ECOSYSTEMS

RE Code	Vegetation	Description	Biodiversity Status	VMA Status	Area (ha)	% of Total Area
11.3.2	Regrowth	<i>Eucalyptus populnea</i> woodland on alluvial plains	of concern	of concern	0.4	<0.1
	Remnant				47.9	2.0
11.3.7	Remnant	<i>Corymbia</i> spp. open woodland on alluvial plains	of concern	least concern	48.1	2.0
11.3.25	Regrowth	<i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines	of concern	least concern	1.7	<0.1
	Remnant				104.4	4.5
11.3.27f	Remnant	<i>Eucalyptus coolabah</i> and/or <i>E. tereticornis</i> open woodland to woodland fringing swamps	of concern	least concern	2.4	0.1
11.3.27i	Remnant	<i>Eucalyptus camaldulensis</i> or <i>E. tereticornis</i> woodland to open woodland with sedgeland ground layer	of concern	least concern	1.6	<0.1
11.4.2	Regrowth	<i>Eucalyptus</i> spp. and/or <i>Corymbia</i> spp. grassy or shrubby woodland on Cainozoic clay plains	of concern	of concern	0.1	<0.1
11.4.9	Regrowth	<i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains	endangered	endangered	0.1	<0.1
	Remnant				24.4	1.0
11.5.3	Regrowth	<i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and/or remnant surfaces	no concern at present	least concern	0.4	<0.1
	Remnant				673.5	28.8
11.5.3b	Remnant	<i>Eucalyptus populnea</i> woodland on closed depressions	no concern at present	least concern	2.4	0.1
11.5.3x1	Remnant	<i>Eucalyptus persistens</i> and <i>E. populnea</i> +/- <i>E. crebra</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> +/- <i>C. dallachiana</i> and occasionally <i>E. cambageana</i> or <i>E. brownii</i> woodland	no concern at present	least concern	21.0	0.9
11.5.9	Remnant	<i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and/or remnant surfaces	no concern at present	least concern	136.5	5.8

RE Code	Vegetation	Description	Biodiversity Status	VMA Status	Area (ha)	% of Total Area
11.5.9b	Remnant	<i>Eucalyptus crebra</i> , <i>E. tenuipes</i> , <i>Lysicarpus angustifolius</i> +/- <i>Corymbia</i> spp. woodland	no concern at present	least concern	4.6	0.2
11.5.9c	Remnant	<i>Eucalyptus crebra</i> +/- <i>Corymbia intermedia</i> +/- <i>E. moluccana</i> +/- <i>C. dallachiana</i> woodland	no concern at present	least concern	17.9	0.8
11.7.2	Remnant	<i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	no concern at present	least concern	9.5	0.4
11.9.5	Regrowth	<i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest to woodland on fine-grained sedimentary rocks	endangered	endangered	0.2	<0.1
11.9.7a	Regrowth	<i>Eucalyptus populnea</i> , <i>Eremophila mitchellii</i> shrubby woodland on fine-grained sedimentary rocks	of concern	of concern	0.1	<0.1
Non-remnant					1,243.1	53.1
Total					2,340.4	100%

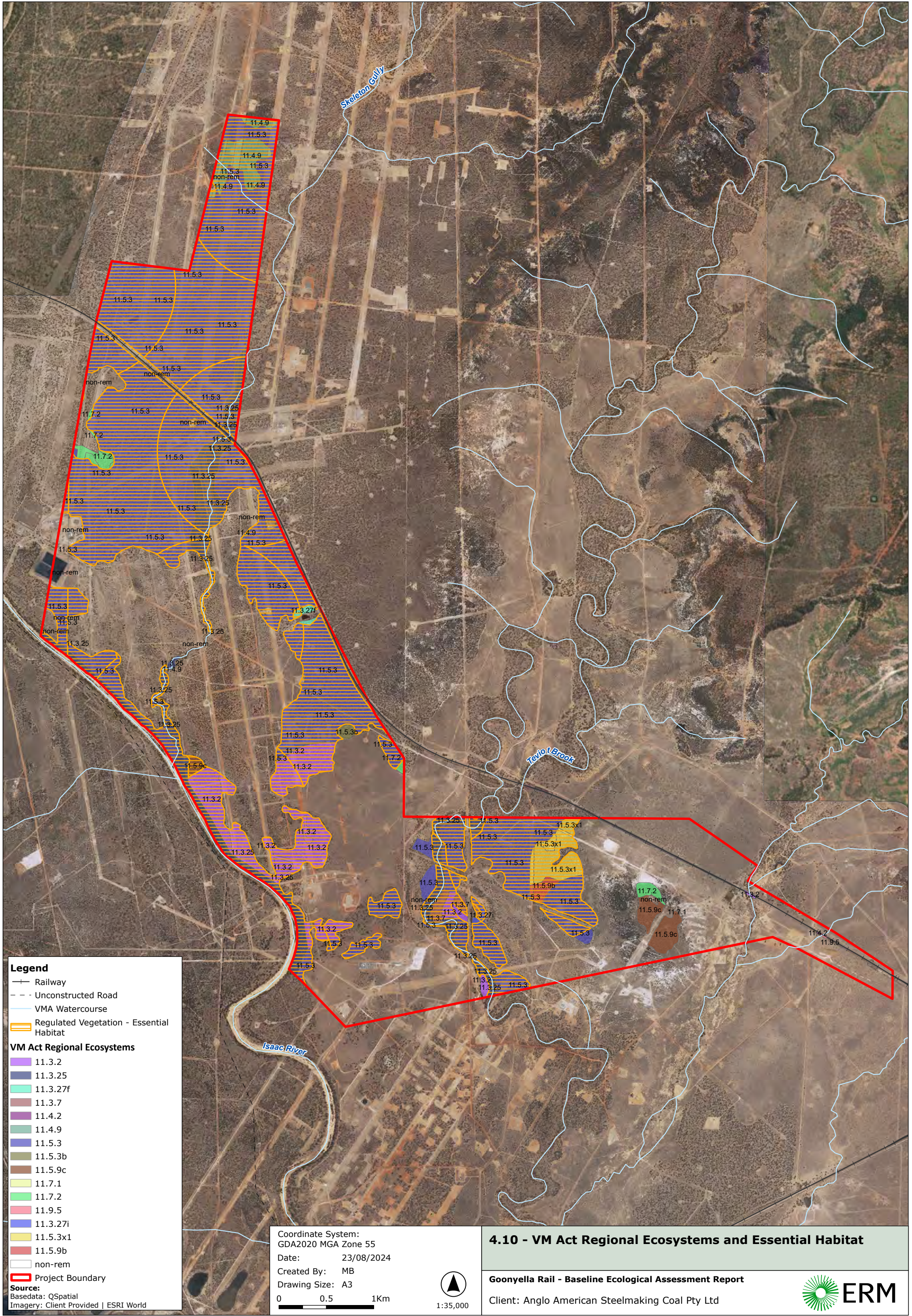
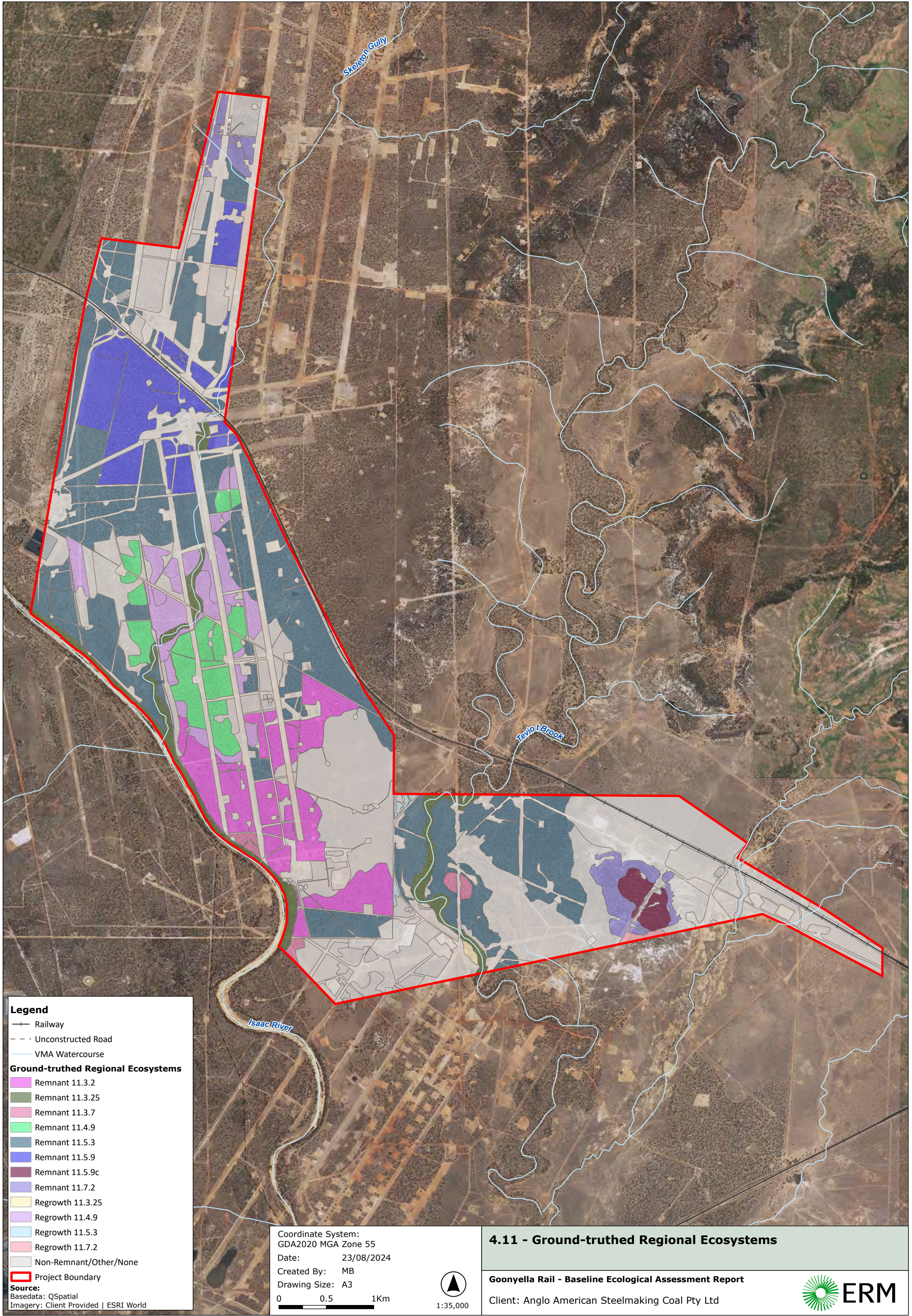


TABLE 4-12 GROUND-TRUTHED REGIONAL ECOSYSTEMS

RE Code		Description	Biodiversity Status	VMA Status	Area (ha)	% of Total Area
11.3.2	Regrowth	<i>Eucalyptus populnea</i> woodland on alluvial plains	Of concern	Of concern	154.9	6.6
11.3.7	Remnant	<i>Corymbia</i> spp. open woodland on alluvial plains	Of concern	Least concern	12.0	0.5
11.3.25	Regrowth	<i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines	Of concern	Least concern	2.1	0.1
	Remnant				73.4	3.1
11.4.9	Regrowth	<i>Acacia harpophylla</i> shrubby woodland with <i>Terminalia oblongata</i> on Cainozoic clay plains	Endangered	Endangered	89.4	3.8
	Remnant				85.2	3.6
11.5.3	Regrowth				3.2	0.2
	Remnant	<i>Eucalyptus populnea</i> +/- <i>E. melanophloia</i> +/- <i>Corymbia clarksoniana</i> woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	Least concern	579.9	24.8
11.5.9	Remnant	<i>Eucalyptus crebra</i> and other <i>Eucalyptus</i> spp. and <i>Corymbia</i> spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	Least concern	153.1	6.5
11.5.9c	Remnant	<i>Eucalyptus crebra</i> +/- <i>Corymbia intermedia</i> +/- <i>E. moluccana</i> +/- <i>C. dallachiana</i> woodland	No concern at present	Least concern	19.6	0.8
11.7.2	Regrowth	<i>Acacia</i> spp. woodland on Cainozoic lateritic duricrust	No concern at present	Least concern	3.2	0.2
	Remnant				48.3	2.1
Non-remnant					1,116.1	47.7
Total					2,340.4	100



Legend

Railway

Unconstructed Road

VMA Watercourse

Ground-truthed Regional Ecosystems

Remnant 11.3.2

Remnant 11.3.25

Remnant 11.3.7

Remnant 11.4.9

Remnant 11.5.3

Remnant 11.5.9

Remnant 11.5.9c

Remnant 11.7.2

Regrowth 11.3.25

Regrowth 11.4.9

Regrowth 11.5.3

Regrowth 11.7.2

Non-Remnant/Other/None

Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date:
23/08/2024

Created By:
MB

Drawing Size:
A3

00.51Km

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4.11 - Ground-truthed Regional Ecosystems

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd

4.4.2 LISTED THREATENED FLORA SPECIES - TERRESTRIAL

There are no NC Act listed threatened flora species with a known, likely or potential occurrence within the Project area.

4.4.3 LISTED THREATENED FAUNA SPECIES - TERRESTRIAL

Following results from the post dry season field survey, 3 listed fauna species are known to occur, 2 are likely to occur, and 1 has the potential to occur, as summarised in **Table 4-13**. Further detail on all of these species is provided in **Section 4.3.3**, with the exception of the short-beaked echidna (*Tachyglossus aculeatus*).

TABLE 4-13: HABITAT SUMMARY FOR LISTED FAUNA SPECIES KNOWN, LIKELY AND POTENTIAL TO OCCUR

Species	NC Act Status	Total Habitat (ha)	Habitat
Known to occur			
greater glider (southern and central)	E	42.2 ha of denning/breeding habitat 55.1 ha of foraging and dispersal habitat	Denning and breeding habitat is associated with: <ul style="list-style-type: none"> Eucalyptus woodland containing appropriate habitat attributes and tree species. Foraging and dispersal habitat has been more precisely mapped by analysing connectivity to suitable breeding and denning habitat. Foraging and breeding habitat includes: <ul style="list-style-type: none"> Eucalyptus woodland with connectivity to denning and breeding habitat with preferred trees (30 – 50 cm DBH). Detailed habitat mapping rules provided in Section 4.3.3.3
squatter pigeon (southern)	V	22.8 ha of breeding habitat 1,046.5 ha of foraging and dispersal habitat	Breeding habitat has been refined to open forest and woodland communities with appropriate ground layer within 1 km of a permanent water source. Foraging and dispersal habitat has been refined to open forest and woodland communities with appropriate ground layer within 3 km of a permanent water source. Detailed habitat mapping rules provided in Section 4.3.3.6
Likely to occur			
koala	E	75.4 ha of breeding and foraging habitat 973.6 ha of dispersal habitat	Foraging and breeding habitat has been refined to contiguous remnant and high-value regrowth eucalyptus woodland with the presence of appropriate food trees, particularly in riparian zones. Dispersal habitat has been refined to areas dominated by <i>Corymbia</i> spp. and other non-preferable food trees. Generally consisting of areas with scattered koala habitat trees further away from riparian zones.

Species	NC Act Status	Total Habitat (ha)	Habitat
			Detailed habitat mapping rules provided in Section 4.3.3.4
ornamental snake	V	16.3 ha	<p>Refuge habitat has been refined to soil cracks on gilgai mounds in appropriate REs.</p> <p>Foraging and dispersal habitat has been refined to lakes and wetlands, and open forests and woodlands in moist areas with gilgai mounds and depressions, with appropriate vegetation communities.</p> <p>Detailed habitat mapping rules provided in Section 4.3.3.5</p>
short-beaked echidna	SLC	1,823.5 ha	<p>Habitat has been identified for the entire Goonyella Rail Corridor, with the exception of the work areas and any waterbodies.</p> <p>Detailed habitat mapping rules provided in Section 4.4.3.1</p>
Potential to occur			
Australian painted snipe	E	73.8 ha	<p>Breeding habitat has been refined to shallow wetland areas with upper canopy cover nearby.</p> <p>Foraging and dispersal habitat has been refined to:</p> <ul style="list-style-type: none"> shallow freshwater wetlands, temporary and permanent lakes where tussock grasses are present; and unlined farm dams and bore drains. <p>Detailed habitat mapping rules provided in Section 4.3.3.2</p>

4.4.3.1 SHORT-BEAKED ECHIDNA (*TACHYGLOSSUS ACULEATUS*)

Species Profile and Threats

The short-beaked echidna (*Tachyglossus aculeatus*) is currently listed as Special Least Concern under the NC Act and is not listed under the EPBC Act. As a result of historic and recent desktop records, short-beaked echidna is assessed as likely to occur within the Project area.

Short-beaked echidna is Australia's most widespread fauna species, with the species found throughout all Australian states and Territories, including Tasmania (DoE, 2024).

General Habitat

Short-beaked echidna inhabit a wide range of habitats, both disturbed and undisturbed, including woodlands, forests, shrublands, grasslands, heathland, arid environments, rocky outcrops and agricultural lands (ALA, 2024; Carritt, 1999). Within these habitats, the species resides under rocks and termite mounds, in hollow logs, under vegetation and woody debris piles, tree roots and may occasionally reside in wombat or rabbit burrows (Hyett & Shaw, 1980). Short-beaked echidnas burrow into the soil or shelter under tussock grass or bushes during wet and windy weather (Carritt, 1999).

Species Occurrence in the Broader Area

There are no publicly available desktop records of the short-beaked echidna within the Project area; however, there are two historic records within 5 km, recorded in 1991 and 1994. There are numerous records of the species within 50 km of the Project area. Additionally, the species was recorded during camera trapping within the southern portion of the adjacent Grosvenor Mine in March 2024.

Field Survey Methodology and Results

Survey Guidelines

There are no species-specific survey guidelines for the short-beaked echidna. The species is generally observed in habitat assessments, spotlighting or incidental drive-by.

Survey Method and Effort

Short-beaked echidna was targeted during the field surveys through spotlighting and habitat assessments. A total of 22 habitat assessments were conducted to determine the presence of habitat features for the species. Spotlighting was conducted within and adjacent to the Project area in 2023 and 2024. Spotlighting effort was as follows:

- post dry season:
 - one team of two people surveying for two hours across three nights; and
 - two teams of two people surveying for two hours in one night (totalling in 12 person hours).
- post wet season:
 - spotlighting was conducted on Moranbah North Mine, adjacent to the Goonyella Rail Corridor by 1 team of 3 people surveying for 3 hours across 2 nights

Survey Results

Despite targeted searches, short-beaked echidna was not recorded during either survey events.

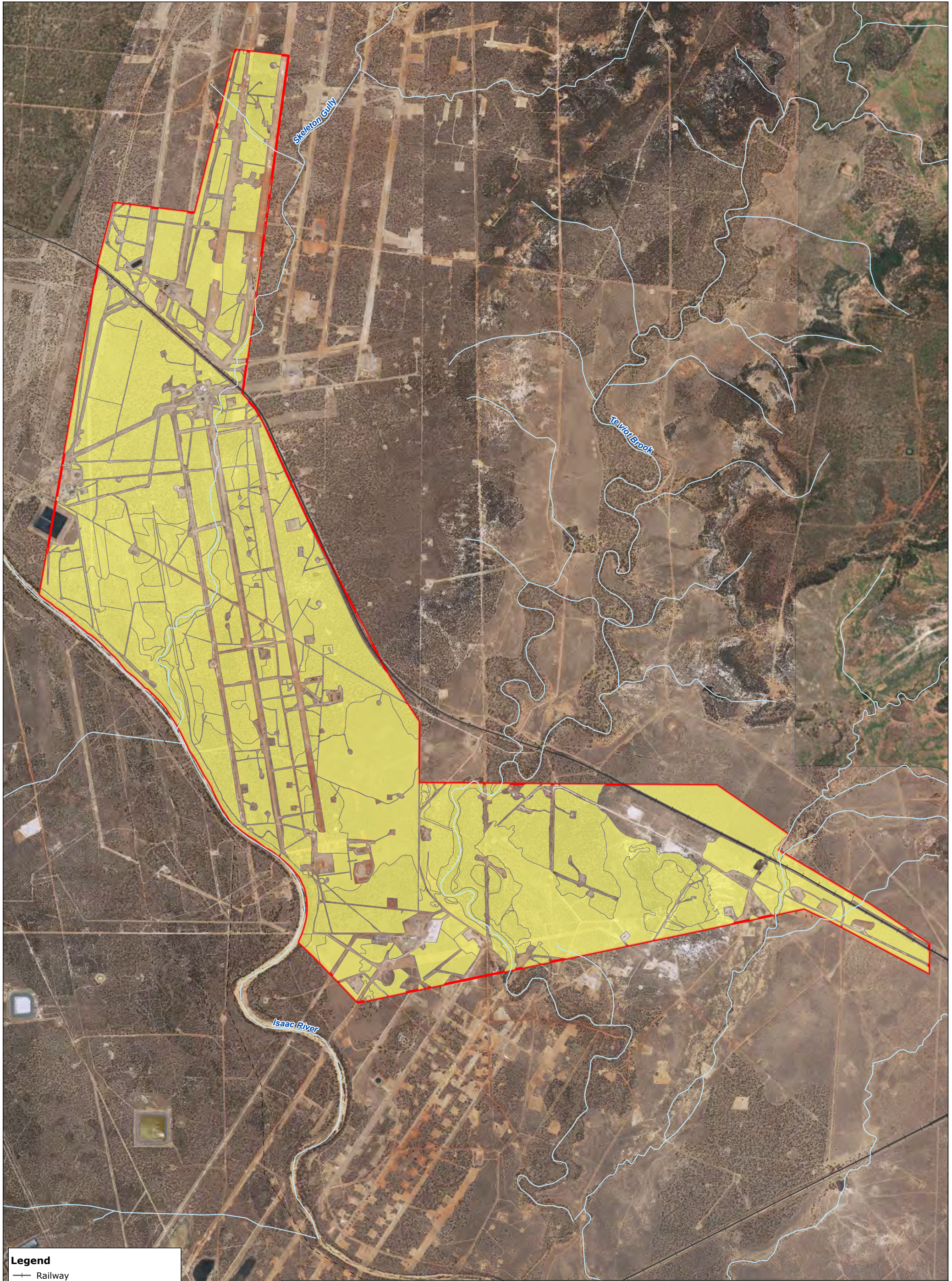
Habitat Assessment and Mapping Rules

Habitat for short-beaked echidna within the Project area has been developed as per the habitat requirements in Table 4-14. As a result, habitat mapping for short-beaked echidna includes all areas with the exception of work areas and waterbodies, totalling 1,823.5 ha (77.7%) and is presented on Figure 4-12.

TABLE 4-14: SHORT-BEAKED ECHIDNA HABITAT MAPPING RULES

Habitat Category	Habitat Requirements and utilisation – Ground truthed for habitat mapping	Mapping approach
Habitat	<ul style="list-style-type: none"> woodlands, forests, shrublands, grasslands, heathland, arid environments, rocky outcrops and agricultural lands with suitable rocks, termite mounds, hollow logs, woody debris piles, tree roots and burrows present. 	<ul style="list-style-type: none"> confirmed by aerial imagery and site plans.

Habitat Category	Habitat Requirements and utilisation – Ground truthed for habitat mapping	Mapping approach
Non-habitat	<ul style="list-style-type: none">waterbodies and work areas.	<ul style="list-style-type: none">confirmed by aerial imagery and site plans.



Legend

- +— Railway
- - - Unconstructed Road
- VMA Watercourse
- Short-beaked Echidna Habitat
- Project Boundary

Source:
Basedata: QSpatial
Imagery: Client Provided | ESRI World

Coordinate System:
GDA2020 MGA Zone 55

Date: 23/08/2024

Created By: MB

Drawing Size: A3

0 0.5 1Km

1:35,000

4.12 - Short-beaked Echidna Habitat

Goonyella Rail - Baseline Ecological Assessment Report

Client: Anglo American Steelmaking Coal Pty Ltd



4.4.4 INVASIVE FLORA

The desktop assessment did not identify any known invasive flora species occurring within the Project area; however, the following invasive flora species were recorded within the Project area during field surveys:

- rubber vine (*Cryptostegia grandiflora*); and
- Prickly pear (*Opuntia stricta*).

4.4.5 INVASIVE FAUNA

The desktop assessment did not identify any known invasive fauna species occurring within the Project area; however, the following were recorded within the Project area during field surveys:

- cane toad (*Rhinella marina*);
- cattle (*Bos taurus*);
- chital deer (*Axis axis*);
- dingo (*Canis lupus dingo*);
- feral cat (*Felis catus*);
- pig (*Sus scrofa*); and
- rabbit (*Oryctolagus cuniculus*).

As these species are highly mobile, they are considered as known and highly likely to traverse throughout the Project area.

4.4.6 CONNECTIVITY AREAS

Connectivity areas are defined in the Queensland Environmental Offsets Policy as “*containing an area of land that is required for ecosystem functioning*”. Any development impact on connectivity areas is considered to be significant if either of the following are true:

- change in the extent of “core” areas of remnant vegetation (i.e. remnant vegetation further than 50m from any non-remnant area, and exceeding 1 ha) at the local scale (post impact) is greater than a threshold determined by the level of fragmentation at the regional scale; or
- any core area that is greater than or equal to 1 ha is lost or reduced to patch fragments (<1 ha).

Regulated vegetation within the Project area represents part of a Connectivity Area.

4.4.7 WATERCOURSES AND WETLANDS

The Project area is intersected by three ephemeral creeks:

- Skeleton Gully – a stream order 3 tributary of the Isaac River;
- Teviot Brook – a stream order 4 tributary of the Isaac River; and
- Unnamed – a stream order 2 tributary of the Isaac River.

The Goonyella Rail Corridor borders the Isaac River, on the western border; however, the Project area does not intersect the Isaac River. Additionally, the Project area is intersected by riverine wetlands, lacustrine wetlands, and palustrine wetlands (refer to Figure 4-9), with the major wetland type being riverine. There are no high ecological significant watercourses or high ecological significant wetlands within the Project area or within 50 km.

5. LIMITATIONS AND ASSUMPTIONS

This Baseline Ecological Report provides an overview of the ecological values present within the Project area at the time of the post dry season (September and November/December 2023) and post wet season (February/March and March/April 2024) surveys, which are the two main periods of seasonal variability in this region for detecting ecological variations in species presence and abundance.

It should be noted that:

- all Broad Habitat Types and habitat calculations were rounded to the nearest decimal place throughout this Report; and
- while all field equipment, as per Table 3-4, was deployed throughout the survey events, there were technical difficulties with some equipment; for example, not all Anabat recording devices recorded bat calls due to faulty SD cards.

6. CONCLUSION

This Baseline Ecological Report has provided an overview of the ecological values present within the Goonyella Rail Corridor for the Goonyella Rail Corridor Realignment Project. The ecological assessment included five field surveys, conducted during the post dry season (September and November/December 2023) and post wet season (February/March and March/April 2024) by experienced ecologists.

The desktop assessments and field surveys informed the habitat mapping for each listed threatened species with a known, likely or potential occurrence. Habitat mapping was refined based on species-specific habitat requirements (i.e., diameter of tree, tree density, proximity to waterbodies etc.) within the Central Queensland region.

The Goonyella Rail Corridor Project area contains 12 Broad Habitat Types, of which 6 contained remnant vegetation and/or other specific habitat features for conservation significant species whilst six were categorised as regrowth vegetation, cleared land or existing mining works areas. Broad Habitat Types that have been assessed as containing remnant vegetation or specific important habitat elements for significant species include:

- acacia woodland;
- brigalow (*Acacia harpophylla*) woodland;
- eucalyptus and corymbia woodland;
- eucalyptus woodland associated with ephemeral streams and watercourses;
- eucalyptus woodland dominated by poplar box (*Eucalyptus populnea*); and
- waterbodies and drainage features.

Broad Habitat Types with lower ecological value, include regrowth habitat and existing work areas:

- acacia regrowth;
- cleared agricultural land;
- cleared land with occasional regrowth;
- mixed eucalyptus regrowth;
- dieback; and
- work areas.

In total, the field surveys confirmed the presence of one TEC, and two threatened fauna species. The field surveys confirmed the following TEC and species to occur:

- brigalow (*Acacia harpophylla* dominant and co-dominant) TEC;
- greater glider (southern and central) (*Petauroides volans*); and
- squatter pigeon (southern) (*Geophaps scripta scripta*).

The following threatened and migratory species (under the EPBC Act) and Special Least Concern species (under the NC Act) were not recorded during the field surveys, however, are assessed as likely to occur:

- glossy ibis (*Plegadis falcinellus*);
- fork-tailed swift (*Apus pacificus*);

- koala (*Phascolarctos cinereus*);
- ornamental snake (*Denisonia maculata*); and
- short-beaked echidna (*Tachyglossus aculeatus*).

Additionally, one threatened fauna species has the potential to occur, being Australian painted snipe (*Rostratula australis*).

Additionally, the Goonyella Rail Corridor Project area contains 8 field verified REs, including 1 listed as Endangered and 1 listed as Least Concern under the VM Act. Additionally, essential habitat, regulated vegetation (defined watercourses), regulated vegetation (100 m form wetland), and Category B – Endangered or Of Concern and Category R – GBR riverine ESAs are present.

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APPENDIX A PROTECTED MATTERS SEARCH TOOL



Australian Government

Department of Climate Change, Energy,
the Environment and Water

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. Please see the caveat for interpretation of information provided here.

Report created: 15-Aug-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

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](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	28
Listed Migratory Species:	9

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. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

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.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	32
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed 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.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area	In feature area
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin	Endangered	Community likely to occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community likely to occur within area	In feature area
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Endangered	Community likely to occur within area	In buffer area only

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythroriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat known to occur within area	In feature area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area	In feature area
Poephila cincta cincta Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
PLANT			
Denhamia megacarpa			
Large-fruited Denhamia [91342]	Endangered	Species or species habitat may occur within area	In buffer area only
Dichanthium queenslandicum			
King Blue-grass [5481]	Endangered	Species or species habitat known to occur within area	In feature area
Dichanthium setosum			
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Eucalyptus raveretiana			
Black Ironbox [16344]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Polianthion minutiflorum			
[82772]	Vulnerable	Species or species habitat may occur within area	In feature area
Samadera bidwillii			
Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Denisonia maculata			
Ornamental Snake [1193]	Vulnerable	Species or species habitat known to occur within area	In feature area
Egernia rugosa			
Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area	In feature area
Elseya albagula			
Southern Snapping Turtle, White-throated Snapping Turtle [81648]	Critically Endangered	Species or species habitat may occur within area	In feature area
Furina dunmalli			
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lerista allanae Allan's Lerista, Retro Slider [1378]	Endangered	Species or species habitat may occur within area	In feature area
Rheodytes leukops Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver [1761]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species

[Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area

Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]		
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In buffer area only
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

EPBC Act Referrals			[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Isaac Downs coal mine project, near Moranbah, Qld	2019/8413		Post-Approval	In buffer area only
Moranbah North & Grosvenor Mines rail and pipeline realignment	2023/09489		Assessment	In feature area
Moranbah North Extension Project, Moranbah, Qld	2018/8338		Post-Approval	In feature area
Controlled action				
Alpha Coal Project - Mine and Rail Development	2008/4648	Controlled Action	Post-Approval	In feature area
Arrow Bowen Pipeline (CSG), QLD	2012/6459	Controlled Action	Post-Approval	In buffer area only
BHP Billiton Goonyella to Abbot Point rail project	2011/6082	Controlled Action	Completed	In buffer area only
Bowen Gas Project	2012/6377	Controlled Action	Post-Approval	In buffer area only
Central Queensland Integrated Rail Project	2012/6321	Controlled Action	Completed	In buffer area only
Construct and Operate the Connors River Dam and Pipelines	2008/4429	Controlled Action	Post-Approval	In buffer area only
Construction and operation of an extension to the existing underground coal mine, Grosvenor Mine, ne	2016/7796	Controlled Action	Post-Approval	In feature area
Establishment of Galilee Coal Mine and Associated Infrastructure	2009/4737	Controlled Action	Post-Approval	In feature area
Extension to the existing Isaac Plains Mine, near Moranbah, Qld	2016/7827	Controlled Action	Post-Approval	In buffer area only
Gas pipeline	2002/728	Controlled Action	Post-Approval	In buffer area only
Goonyella Riverside Coal Mine Expansion	2005/2248	Controlled Action	Completed	In buffer area only
Goonyella Riverside Mine to South Walker Creek Mine Dragline Move	2016/7788	Controlled Action	Completed	In buffer area only
Grosvenor West Coal Project	2012/6281	Controlled Action	Completed	In buffer area only
install & operate gas pipeline	2005/2059	Controlled Action	Post-Approval	In buffer area only
Moranbah South Project Coal Mine, QLD	2012/6337	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Open Cut Coal Mining	2004/1770	Controlled Action	Post-Approval	In buffer area only
Red Hill Mining Project,20kms north of Moranbah, Qld	2013/6865	Controlled Action	Post-Approval	In feature area
The Grosvenor Coal Mine Project	2007/3785	Controlled Action	Post-Approval	In feature area
Not controlled action				
Broadlea North Coal Project open cut mine and associated infrastructure	2005/2179	Not Controlled Action	Completed	In feature area
Broadlea to Mallowa and Mallowa to Wotonga Rail Duplication	2006/3046	Not Controlled Action	Completed	In buffer area only
construction and operation of Carborough Downs Mine	2005/2064	Not Controlled Action	Completed	In buffer area only
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Integrated Isaac Plains Project	2006/3043	Not Controlled Action	Completed	In buffer area only
Moranbah North Coal Mine Methane Power Project	2007/3565	Not Controlled Action	Completed	In buffer area only
Moranbah to Alpha Pipeline Project	2012/6257	Not Controlled Action	Completed	In buffer area only
Open cut coal mine 7km NE of Moranbah (Isaac Plains)	2005/2070	Not Controlled Action	Completed	In feature area
Upgrade of a section of the Goonyella Rail System	2011/5857	Not Controlled Action	Completed	In buffer area only
Water pipeline	2006/2595	Not Controlled Action	Completed	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and 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.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

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:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian 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, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-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.

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

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APPENDIX B LIKELIHOOD OF OCCURRENCE

Identification				Records	Assessment	
Scientific Name	Common Name	QLD NC Act	Comm. EPBC Act	Desktop records within 10 km	Habitat Summary	Likelihood of Occurrence
Threatened Ecological Communities						
Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant)		-	E	-	<p>The Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) TEC occurs within Queensland and New South Wales. In Queensland, the Brigalow ecological community that has been listed under the EPBC Act is defined by reference to 16 REs, all of which are listed as 'endangered' under the Queensland Vegetation Management Act 1999. The Brigalow ecological community is characterised by the presence of <i>Acacia harpophylla</i> as one of the most abundant tree species (Butler, 2007). <i>A. harpophylla</i> is either, dominant in the tree layer, or co-dominant with other species – notably Belah (<i>Casuarina cristata</i>), <i>Eucalyptus</i> spp., or another <i>Acacia</i> spp.</p> <p>The Brigalow TEC has a considerable range of vegetation structure and composition united by species that typically occur on acidic and salty clay soils (Isbell, 1962; Johnson, 1964; Bui and Henderson, 2003).</p>	<p>Known to occur</p> <ul style="list-style-type: none"> One RE associated with this TEC is known to occur, being: <ul style="list-style-type: none"> RE 11.4.9.
Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin		-	E	-	<p>The Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin TEC is comprised of perennial native grasses, typically occurring on fine textured soils or cracking clays derived from either basalt or fine-grained sedimentary rocks, on flat or gently undulating rises.</p>	<p>Not occurring</p> <ul style="list-style-type: none"> No REs associated with this TEC occur.

Identification			Records	Assessment
				<p>This TEC occurs entirely in Queensland from Collinsville to Carnarvon National Park, particularly in areas with relatively high rainfall during the wet season, and where a tree canopy is usually absent, however when present, the projective crown cover is no more than 10% (DEWHA, 2008a).</p>
Poplar Box Grassy Woodland on Alluvial Plains	-	E	-	<p>The Poplar Box Grassy Woodland on Alluvial Plains TEC features grassy woodlands with a canopy dominated by Poplar Box (<i>Eucalyptus populnea</i>) and an understory of grasses and herbs. This TEC is typically located on gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin (Webb et al. 1980).</p> <p>Not occurring</p> <ul style="list-style-type: none"> One RE associated with this TEC is known to occur, being RE 11.3.2. Following field verification, potential patches did not meet TEC condition thresholds.
Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	-	E	-	<p>The SEVT TEC predominantly occurs in Queensland, however, does stretch to northern New South Wales. This TEC typically comprises semi-evergreen vine thickets, which is an extreme form of dry seasonal subtropical rainforest (McDonald, 1996). SEVT TEC is typically composed of bottle trees (<i>Brachychiton</i> spp.) as emergent, trees with microphyll sized leaves (e.g., 2.5 – 7.6 cm) and the thickets occurring in areas with a subtropical, seasonally dry climate on soils of high to medium fertility (Webb 1959, 1968; Webb & Tracey 1981, 1994).</p> <p>Not occurring</p> <ul style="list-style-type: none"> No REs associated with this TEC occur.

Identification				Records	Assessment
Threatened Birds					
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	-	V, Mi, Ma	No	<p>In Australasia, the sharp-tailed sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland.</p> <p>Foraging habitat: They forage at the edge of the water of wetlands or intertidal mudflats, either on bare wet mud or sand, or in shallow water. They also forage among inundated vegetation of saltmarsh, grass or sedges. They forage in sewage ponds, and often in hypersaline environments. After rain, they may forage in paddocks of short grass, well away from water. They may forage on coastal mudflats at low tide and move to freshwater wetlands near the coast to feed at high tide.</p> <p>Roosting habitat: Roosting occurs at the edges of wetlands, on wet open mud or sand, in shallow water, or in short sparse vegetation, such as grass or saltmarsh. Occasionally, they roost on sandy beaches, stony shores or on rocks in water.</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 37 km north-east. The Goonyella Rail Corridor does not contain suitable habitat for the species.
<i>Calidris ferruginea</i>	Curlew sandpiper	CE	CE, Mi, Ma	No	<p>Curlew sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km of.

Identification				Records	Assessment
					<p>They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters.</p> <p>Breeding habitat: Does not breed in Australia.</p> <p>Foraging habitat: Curlew Sandpipers forage on mudflats and nearby shallow water. In non-tidal wetlands, they usually wade, mostly in water 15–30 mm, but up to 60 mm, deep. They forage at the edges of shallow pools and drains of intertidal mudflats and sandy shores. At high tide, they forage among low sparse emergent vegetation, such as saltmarsh, and sometimes forage in flooded paddocks or inundated salt flats.</p> <p>Roosting habitat: Curlew Sandpipers generally roost on bare dry shingle, shell or sand beaches, sandspits and islets in or around coastal or near-coastal lagoons and other wetlands, occasionally roosting in dunes during very high tides and sometimes in saltmarsh (Higgins & Davies 1996)</p> <ul style="list-style-type: none"> • The closest record is located 125 km south-west. • There are water courses present, however, lack large areas of sandy banks or mudflat type habitat.
<i>Erythrotriorchis radiatus</i>	Red goshawk	E	V	No	<p>This species prefers wooded and forested lands of tropical and warm-temperate Australia. Forests of intermediate density, with tall stands or individual trees so that nests are supported, are favoured, or ecotones between habitats of differing densities, e.g., between rainforest and eucalypt forest, between gallery forest and woodland, or on edges of woodland and forest where they meet grassland, cleared land, roads or watercourses.</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> • Goonyella Rail Corridor is located within the species distribution (may occur). • There are no records of the species within the Goonyella Rail Corridor or within 10 km. • The closest record is located 125 km south-west.

Identification				Records	Assessment
					<p>Avoids very dense and very open habitats and has a large home range. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds), and permanent water.</p> <p>The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest, and rainforest margins.</p> <ul style="list-style-type: none"> Large open eucalypt woodland areas are present, however, lacks rainforest ecotones.
<i>Falco hypoleucos</i>	Grey falcon	V	V	No	<p>The species frequents timbered lowland plains, particularly acacia shrublands that are crossed by tree-lined water courses. The species has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter.</p> <p>A rarely seen species, occurring at low densities throughout much of the arid and semi-arid interior of Australia.</p> <p>Nesting habitat: Eggs are laid in the old nests of other birds, particularly those of other raptors or corvids. The nests chosen are usually in the tallest trees along watercourses, particularly River Red Gum (<i>Eucalyptus camaldulensis</i>) and Coolibah (<i>E. coolabah</i>), but falcons also nest in telecommunication towers.</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may and likely to occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 50 km south-west. The Goonyella Rail Corridor lacks acacia shrublands that are crossed by tree-lined water courses, however, does incur a watercourse that is lined with riparian vegetation.
<i>Gallinago hardwickii</i>	Latham's snipe	-	V, Mi, Ma	No	<p>They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies).</p> <p>Foraging habitat: The foraging habitats of Latham's Snipe are characterized by areas of mud (either exposed or beneath a very shallow covering of water) and some form of cover (e.g. low, dense</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 37 km north-east.

Identification				Records	Assessment
					<p>vegetation) (Frith et al. 1977; Todd 2000). The snipe roost on the ground near (or sometimes in) their foraging areas, usually in Goonyella Rail Corridors that provide some degree of shelter, e.g. beside or under clumps of vegetation, among dense tea-tree, in forests, in drainage ditches or plough marks, among boulders, or in shallow water if cover is unavailable</p> <p>Latham's Snipe sometimes occur in habitats that have saline or brackish water, such as saltmarsh, mangrove creeks, around bays and beaches, and at tidal rivers. These habitats are most commonly used when the birds are on migration (Frith et al. 1977). They are regularly recorded in or around modified or artificial habitats including pasture, ploughed paddocks, irrigation channels and drainage ditches, rice fields, orchards, saltworks, and sewage and dairy farms.</p>
<i>Geophaps scripta scripta</i>	Squatter pigeon (southern)	V	V	Yes	<p>The squatter pigeon (southern) inhabits the grassy understorey of open eucalypt woodland, and less often savannas. It is nearly always found near permanent water such as rivers, creeks and waterholes. Sandy areas dissected by gravel ridges, which have open and short grass cover allowing easier movement, are preferred. It is less commonly found on heavier soils with dense grass. The species often occurs in burnt areas and is sometimes found on tracks and roadsides.</p> <p>Known to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (likely to occur). Five individuals were recorded during field surveys. There are no desktop records of the species within the Goonyella Rail Corridor; however, there are eight desktop records within 10 km, recorded between 2014 – 2023. Preferred grassy understorey of open eucalypt woodland habitat is present.

Identification				Records	Assessment
<i>Poephila cincta cincta</i>	Black-throated finch (southern)	E	E	No	<p>The black-throated finch (southern) occurs mainly in grassy, open woodlands and forests, typically dominated by Eucalyptus, Corymbia and Melaleuca, and occasionally in tussock grasslands or other habitats (for example freshwater wetlands), often along or near watercourses, or in the vicinity of water. Some of the more common species of eucalypts in woodlands and forests frequented by the subspecies include Narrow-leaved Ironbark (<i>E. crebra</i>), River Red Gum (<i>E. camaldulensis</i>), Silver-leaved Ironbark (<i>E. melanophloia</i>), Reid River Box (<i>E. brownii</i>), Yellowjacket (<i>E. similis</i>) and Forest Red Gum (<i>E. tereticornis</i>). The subspecies occasionally occurs in Melaleuca woodlands, or in grasslands comprised of genera such as <i>Astrebla</i>, <i>Dichanthium</i> or <i>Panicum</i>.</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 147 km east. Suitable habitat is present, mainly RE 11.5.3, which contains eucalyptus species typical of the species.
<i>Stagonopleura gutatta</i>	Diamond firetail	V	V	No	<p>Diamond Firetail inhabit woodlands dominated by Eucalyptus, Acacia or Casuarina sp., particularly favouring Box-Gum woodlands and Snow Gum (<i>Eucalyptus pauciflora</i>) woodlands. The species has been observed in open forests, Mallee, grasslands and along riparian areas including rivers and lakes.</p> <p>Breeding habitat: The species nests in shrubby understoreys or in woodland areas, particularly under hawk's or raven's nests.</p> <p>Foraging habitat: Diamond firetail forage exclusively on the ground for ripe grass and herb seeds, green leaves and insects.</p> <p>Roosting habitat: The species roosts in dense shrubs within woodlands.</p> <p>Unlikely to occur.</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is not located within the distribution for this species. Although the Goonyella Rail Corridor contains riparian vegetation including a large river system, the Goonyella Rail Corridor is not located within the species modelled distribution. No records for the species occur within the Goonyella Rail Corridor or within 10 km of the Goonyella Rail Corridor. Closest record is located 146 km north-east of the Goonyella Rail Corridor.

Identification				Records	Assessment
<i>Rostratula australis</i>	Australian painted snipe	E	E	Yes	<p>Species uses inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical waterbodies include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum Muehlenbeckia or canegrass or sometimes tea-tree (<i>Melaleuca</i>). The Australian painted snipe sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber.</p> <p>Breeding habitat: Australian painted snipe breeding habitat requirements may be quite specific: shallow wetlands with areas of bare wet mud and both upper and canopy cover nearby.</p> <p>Foraging habitat: The Australian painted snipe loafs on the ground under clumps of lignum, tea-tree and similar dense bushes (Marchant & Higgins 1993). This species has been recorded foraging under clumps of tea-trees (Leach et al. 1987), but most records are from daytime roosts and the foraging habitat requirements of this species are not well understood and may be quite specific.</p>
<i>Tringa nebularia</i>	Common greenshank	-	E, Mi, Ma	No	<p>The common greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms.</p>
					<p>Potential to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor. However, there is one record within 10 km of. There are water courses present, however, lacks waterlogged grasslands or saltmarshes.
					<p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within a patchy portion of the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 17 km south.

Identification				Records	Assessment	
					<p>The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and salt flats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores.</p> <p>Foraging Habitat: The species is known to forage at edges of wetlands, in soft mud on mudflats, in channels, or in shallows around the edges of water often among pneumatophores of mangroves or other sparse, emergent or fringing vegetation, such as sedges or saltmarsh. It will occasionally feed on exposed seagrass beds.</p> <p>Roosting habitat: The Common Greenshank roosts and loafes round wetlands, in shallow pools and puddles, or slightly elevated on rocks, sandbanks or small muddy islets. Occasionally the species will perch and roost on stakes (Higgins & Davies 1996). The species is known to have roosted on an inland claypan near Roebuck Bay, Western Australia; this Goonyella Rail Corridor may be an important roost Goonyella Rail Corridor for this species at least during the non-breeding season.</p>	<ul style="list-style-type: none"> The Goonyella Rail Corridor is intersected by multiple tributaries. The species was not recorded during either survey event.
Migratory Birds						
<i>Actitis hypoleucos</i>	Common sandpiper	SL	Mi	No	<p>The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The Common Sandpiper has been recorded in estuaries and deltas of streams, as well as on banks farther</p>	<p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km.

Identification				Records	Assessment
					<p>upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties.</p> <p>Foraging habitat: Generally the species forages in shallow water and on bare soft mud at the edges of wetlands; often where obstacles project from substrate, e.g. rocks or mangrove roots. Birds sometimes venture into grassy areas adjoining wetlands.</p> <p>Roosting habitat: Roost Areas are typically on rocks or in roots or branches of vegetation, especially mangroves. The species is known to perch on posts, jetties, moored boats and other artificial structures, and to sometimes rest on mud or 'loaf' on rocks.</p>
<i>Apus pacificus</i>	Fork-tailed swift	SL	Mi, Ma	Yes	<p>The fork-tailed swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher.</p> <p>They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. The sometimes occur above rainforests, wet sclerophyll forest or open forest or plantations of pines.</p>
					<ul style="list-style-type: none"> The closest record is located 108 km north-east. The Goonyella Rail Corridor does not contain suitable habitat for the species.
					<p>Likely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (likely to occur). There are no records of the species within the Goonyella Rail Corridor. However, there is one record within 10 km. The species is primarily aerial, flying along its migration fly-way path, however the Goonyella Rail Corridor does contain some habitat that is typical of the species, including dry woodlands and disturbed farmland. The species was not recorded during either survey event.
<i>Calidris melanotos</i>	Pectoral sandpiper	SL	Mi, Ma	No	<p>In Australasia, the pectoral sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons,</p>
					<p>Unlikely to occur</p>

Identification				Records	Assessment
					<p>estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.</p> <p>The species is usually found in coastal or near coastal habitat but occasionally found further inland. It prefers wetlands that have open fringing mudflats and low, emergent or fringing vegetation, such as grass or samphire. The species has also been recorded in swamp overgrown with lignum. They forage in shallow water or soft mud at the edge of wetlands</p>
					<ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 110 km north-east. The species is commonly found in coastal areas preferring wetland or mudflat habitats. These habitats are not present.
<i>Cuculus optatus</i>	Oriental cuckoo	SL	Mi, Ma	No	<p>The oriental cuckoo primarily inhabits forested areas, wet sclerophyll forest, paperbark swamps and mangroves ecosystems.</p>
					<p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may and likely to occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 35 km south. The Goonyella Rail Corridor contains areas of forested landscapes, however, lacks mangrove or wet ecosystems.
<i>Motacilla flava</i>	Yellow wagtail	SL	Mi, Ma	No	<p>This species occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, sewage farms and bogs to damp steppe and grassy tundra. In the north of its range, it is also found in large forest clearings. It breeds from April to August, although this varies with latitude. The nest is a grass cup lined with hair and placed on or close to the ground in a shallow scrape.</p>
					<p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may and likely to occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 260 km south-east.

Identification				Records	Assessment	
						<ul style="list-style-type: none"> The species commonly occupies damp or wet habitats typical of wetlands or marshes. These type of habitats are not present.
<i>Plegadis falcinellus</i>	Glossy ibis	SL	Mi	No		<p>Potential to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no desktop records of the species within the Goonyella Rail Corridor or within 10 km. One individual was recorded during field surveys in Moranbah North Mine in 2024. The species was recorded on two occasions within the adjacent Grosvenor Mine in 2023 and 2024. The Goonyella Rail Corridor contains farm dams, however no suitable wetlands. The Goonyella Rail Corridor contains ephemeral creeks and is adjacent to the Isaac River (ephemeral).
Mammals						
<i>Dasyurus hallucatus</i>	Northern quoll	E	E	No	<p>The northern quoll inhabits a range of areas including; rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and deserts.</p> <p>Northern Quoll habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal. Rocky habitats are usually of</p>	<p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (likely to occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 47 km north-east.

Identification				Records	Assessment
					<p>high relief, often rugged and dissected but can also include tor fields or caves in low lying areas such as in Western Australia.</p> <p>Eucalypt forest or woodland habitats usually have a high structural diversity containing large diameter trees, termite mounds or hollow logs for denning purposes. Dens are made in rock crevices, tree holes or occasionally termite mounds</p> <ul style="list-style-type: none"> The Goonyella Rail Corridor exhibits areas of eucalypt woodlands and minimal areas of shrubland on deeply weathered coarse-grained sedimentary rocks.
<i>Macroderma gigas</i>	Ghost Bat	V	E	No	<p>The species currently occupy habitats ranging from the arid Pilbara to tropical savanna woodlands and rainforests. Ghost bats move between a number of caves seasonally or as dictated by weather conditions and require a range of cave Goonyella Rail Corridors. Roost Goonyella Rail Corridors include caves, rock crevices and disused mine audits.</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 56 km north-east. Habitat features are not abundant within the Goonyella Rail Corridor.
<i>Nyctophilus corbeni</i>	Corben's Long-eared bat	V	V	No	<p>The Corben's Long-eared bat is found in a wide range of inland woodland vegetation types. These include box / ironbark / cypress pine woodlands, buloke woodlands, brigalow woodland, belah woodland, smooth-barked apple woodland, river red gum forest, black box woodland, and various types of tree mallee.</p> <p>In Queensland and New South Wales, it inhabits a variety of vegetation types but it is distinctly more common in box / ironbark / cypress-pine vegetation that occurs in a north-south belt along the</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 237 km south-east.

Identification				Records	Assessment
					western slopes and plains of New South Wales and southern Queensland.
<i>Petauroides volans</i>	Greater glider (southern and central)	E	E	No	<p>Greater glider (southern and central) is predominantly solitary and largely restricted to eucalypt forests and woodlands of eastern Australia.</p> <p>Denning habitat: In south-eastern Qld the species showed a strong preference for three den-tree species (<i>E. acmenoides</i> (broad-leaved white mahogany), <i>E. fibrosa</i> (red ironbark) and <i>E. tereticornis</i> (forest red gum)) due to their availability as hollow-bearing trees.</p> <p>Foraging Habitat: It feeds from a restricted range of eucalypt species, such as <i>E. radiata</i> (narrow-leaved peppermint) in Vic (Henry 1995), manna gum in south-eastern NSW (Kavanagh & Lambert 1990), and <i>E. moluccana</i> (grey box) in south-eastern Qld. It favours forests with a diversity of eucalypt species, due to seasonal variation in growth and nutrient content of its preferred tree species</p>
<i>Phascolarctos cinereus</i>	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	E	E	Yes	<p>Koalas naturally inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by Eucalyptus species as explained by Martin & Handasyde 1999 (as cited in, DoE, 2019h).</p> <p>Breeding and foraging habitat: koala habitat can be broadly defined as any forest or woodland containing species that are known koala food trees, or shrubland with emergent food trees.</p> <p>Dispersal habitat: Dispersal habitat is recognised as habitat that the koala can disperse into and is typically open</p>
					<p>Known to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no desktop records of the species within the Goonyella Rail Corridor or within 10 km. Three individuals were recorded within riparian vegetation during the field survey events.
					<p>Likely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (likely to occur). There are 7 records within 10 km. The species has been recorded in the adjacent Moranbah North Mine in August 2023; and in Grosvenor Mine in 2024. No individuals were recorded during field surveys. The Goonyella Rail Corridor displays appropriate dispersal

Identification				Records	Assessment	
					woodland, paddock trees, riparian habitat and habitat where there are koala food trees.	and foraging habitat, which being eucalypt woodlands and connectivity to surround wooded areas.
Reptiles						
<i>Denisonia maculata</i>	Ornamental snake	V	V	Yes	The ornamental snake is known only from within the drainage system of the Fitzroy and Dawson Rivers in Queensland. The species can be found on floodplains, undulating clay pans and along the margins of swamps, lakes and watercourses. It also occurs on adjoining areas of elevated ground and has been recorded in woodlands and open woodlands of coolabah, poplar box, and brigalow, and in fringing vegetation along watercourses	Likely to occur <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (likely to occur). There are no desktop records within the Goonyella Rail Corridor; however, there are 20 records within 10 km, recorded between 2003 – 2023. The Goonyella Rail Corridor is in the centre of the distribution range of the species, and the species has been sighted in the adjacent Moranbah North Mine in previous survey efforts. The Goonyella Rail Corridor is also within the brigalow belt bioregion which is of preferred habitat of the species.
<i>Egernia rugosa</i>	Yakka skink	V	V	No	The yakka skink is endemic to Queensland where its distribution is patchy. Isolated populations occur throughout subhumid areas in the interior of Queensland from St George in the south, to Coen and Cape York in the north. In the southern half of the Brigalow Belt it occurs near Rockhampton, south to St George and west to Chesterton Range National Park. The core habitat of this species is within the Mulga Lands and Brigalow Belt South	Unlikely to occur <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 184 km south-east.

Identification				Records	Assessment
					Bioregions. The Yakka Skink is found in open dry sclerophyll forest or woodland. This species will often take refuge among dense ground vegetation, large hollow logs, cavities in soil-bound root systems of fallen trees and beneath rocks.
<i>Elseya albagula</i>	Southern snapping turtle	CE	CE	No	<p>The Southern Snapping Turtle is endemic to the Fitzroy, Mary and Burnett Rivers and associated smaller ranges in southern Queensland.</p> <p>Unlikely to occur.</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is within the distribution for this species (may occur). The three rivers where the southern snapping turtle is endemic to, are not located in the vicinity of the Goonyella Rail Corridor. No records for the species occur within the Goonyella Rail Corridor or within 10 km of the Goonyella Rail Corridor. Closest record is located 91 km south-east of the Goonyella Rail Corridor.
<i>Furina dunmalli</i>	Dunmall's Snake	V	V	No	<p>The Dunmall's snake primary habitat is areas of forests and woodlands on black alluvial cracking clay and clay loams dominated by brigalow (<i>Acacia harpophylla</i>), other wattles (<i>A. burowii</i>, <i>A. deanii</i>, <i>A. leioclyx</i>), native cypress (<i>Callitris</i> spp.) or bull-oak (<i>Allocasuarina luehmannii</i>).</p> <p>Various blue spotted gum (<i>Corymbia citriodora</i>), ironbark (<i>Eucalyptus crebra</i> and <i>E. melanophloia</i>), white cypress Pine (<i>Callitris glaucophylla</i>) and bulloak open forest and woodland associations on sandstone derived soils</p> <p>Denning habitat: The species has been found sheltering under fallen timber and</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 99 km south-west. The Goonyella Rail Corridor is within the most northern extent of the distribution range of the species.

Identification				Records	Assessment	
					ground litter, and may use cracks in alluvial clay soils	
<i>Lerista allanae</i>	Allan's lerista	E	E	No	Allan’s lerista is only known to occur in the root systems of grass tussocks on black soils within undulating plains formed on basalt, shale, sandstone and unconsolidated sediments of the Oxford land system in the central Brigalow Biogeographic Region. The distribution of this species overlaps with the following EPBC Act-listed TECs: Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) and Bluegrass (<i>Dichanthium</i> spp.) dominant grasslands of the Brigalow Belt Bioregions (North and South).	Unlikely to occur <ul style="list-style-type: none">Goonyella Rail Corridor is located within the species distribution (may occur).There are no records of the species within the Goonyella Rail Corridor or within 10 km.The closest record is located 53 km south.The Goonyella Rail Corridor is within the northern most sections of the distribution range. The Goonyella Rail Corridor displays some suitable habitat features alike tussock grassed areas, however there is only small stretches of this type of habitat.
<i>Rheodytes leukops</i>	Fitzroy River Turtle	V	V	No	The species occurs in flowing rivers with large deep pools with rocky, gravelly or sandy substrates, connected by shallow riffles. The Fitzroy River Turtle is only found in the Fitzroy River and its tributaries.	Unlikely to occur <ul style="list-style-type: none">Goonyella Rail Corridor is located within the species distribution (may and likely to occur).There are no records of the species within the Goonyella Rail Corridor or within 10 km.The closest record is located 119 km south-east.The species habitat is limited to flowing rivers with large deep pools. There is on large river that flows through the Goonyella Rail Corridor, Isaac river, this river has numerous tributaries including Skeleton Gully.

Identification				Records	Assessment
Plants					
<i>Denhamia megacarpa</i>	Large-fruited denhamia	E	-	No	<p>The species is known from three subpopulations in eastern central Queensland, the tableland that occurs within the locality of Mackenzie north of Dingo (the Mackenzie subpopulation), the Junee Tableland near Middlemount where it was first recorded in 1972 (the Junee subpopulation), and an outlying subpopulation at Newlands west of Mackay (the Newlands subpopulation). The Newlands subpopulation occurs adjacent to Newlands mine on a cattle grazing property, while the Mackenzie subpopulation occurs across several cattle properties in which land clearing and management of regrowth continues to pose a threat. Only the Junee subpopulation is currently protected within the reserve system (one location in Junee National Park, one location in Junee State Forest).</p> <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within a patchy portion of the species distribution (may occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 72 km north. The species has an extremely small distribution range, in which extends over patches of the Goonyella Rail Corridor.
<i>Dichanthium queenslandicum</i>	King blue-grass	V	E	Yes	<p>King blue-grass is endemic to central and southern Queensland where it occurs in three disjunct populations. The distribution of this species overlaps with the following EPBC Act-listed TECs:</p> <ul style="list-style-type: none"> Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant); Weeping Myall Woodlands; Natural Grasslands on Basalt and Fine-textured Alluvial Plains of Northern New South Wales and southern Queensland; and Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin <p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (may and likely to occur). There are no records of the species within the Goonyella Rail Corridor. However, there are 2 records within 10 km. The Goonyella Rail Corridor has small sections of brigalow vegetation that has the potential to provide habitat for the species.

Identification				Records	Assessment	
<i>Dichanthium setosum</i>	Bluegrass	-	V	No	Dichanthium setosum is associated with heavy basaltic black soils and red-brown loams with clay subsoil; however, is also often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. Associated species include white box (<i>Eucalyptus albens</i>), silver-leaved ironbark (<i>E. melanophloia</i>), yellow box (<i>E. melliodora</i>), manna gum (<i>E. viminalis</i>), Amulla (<i>Myoporum debile</i>), purple wire-grass (<i>Aristida ramosa</i>), kangaroo grass (<i>Themeda triandra</i>), fine-leaved tussock-grass (<i>Poa sieberiana</i>), red-leg grass (<i>Bothriochloa ambigua</i>), pitted blue-grass (<i>Bothriochloa decipiens</i>), <i>Macrozamia stenomera</i> , small woolly burr-medic (<i>Medicago minima</i>), scaly buttons (<i>Leptorhynchos squamatus</i>), <i>Lomandra aff. longifolia</i> , Australian bugle (<i>Ajuga australis</i>), bogan-flea (<i>Calotis hispidula</i>) and <i>Austrodanthonia</i> spp., <i>Dichopogon</i> spp., <i>Brachyscome</i> spp., <i>Vittadinia</i> spp., <i>Wahlenbergia</i> spp. and <i>Psoralea</i> spp.	Unlikely to occur <ul style="list-style-type: none">Goonyella Rail Corridor is not located within the species distribution.There are no records of the species within the Goonyella Rail Corridor or within 10 km.The nearest record is located 64 km north-east of the Goonyella Rail Corridor, recorded in 2006.
<i>Eucalyptus raveretiana</i>	Black ironbox	LC	V	No	Black ironbox occurs on the banks of rivers, creeks and other watercourses, on clayey or loamy soil. Black Ironbox occurs between Rockhampton and Ayr in Queensland. The extent of occurrence is about 90 000 km2 (Queensland Herbarium, 2008). This distribution of Black Ironbox overlaps with the following EPBC Act-listed TECs: <ul style="list-style-type: none">Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant),	Unlikely to occur <ul style="list-style-type: none">Goonyella Rail Corridor is located within the species distribution (likely to occur).There are no records of the species within the Goonyella Rail Corridor or within 10 km.The closest record is located 42 km east.The species commonly occurs along water courses and within

Identification				Records	Assessment	
					<ul style="list-style-type: none"> Bluegrass (<i>Dichanthium</i> spp.) dominant grasslands of the Brigalow Belt Bioregions (North and South), and Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions. 	brigalow and bluegrass vegetation. The Goonyella Rail Corridor has multiple tributaries that could enable for the species to occur.
<i>Polianthion minutiflorum</i>			V			
<i>Samadera bidwillii</i>	Quassia	V	V	No	<p>Quassia is endemic to Queensland and is currently known to occur in several localities between Scawfell Island, near Mackay, and Goomboorian, north of Gympie. Quassia commonly occurs in lowland rainforest or on rainforest margins (Hewson, 1985), but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses (Belleng Pty Ltd, 2004) in locations up to 510 m altitude. Commonly associated with Gum species alike <i>Corymbia citriodora</i>, <i>Eucalyptus propinqua</i>, <i>E. acmenoides</i>, <i>E. tereticornis</i>, <i>E. intermedia</i>, <i>E. siderophloia</i>, <i>E. moluccana</i>, <i>E. cloeziana</i>, and <i>E. fibrosa</i>.</p>	<p>Unlikely to occur</p> <ul style="list-style-type: none"> Goonyella Rail Corridor is located within the species distribution (likely to occur). There are no records of the species within the Goonyella Rail Corridor or within 10 km. The closest record is located 157 km south-east. The Goonyella Rail Corridor is located within the northern range of the species distribution, being patchy across the entire Goonyella Rail Corridor. The Goonyella Rail Corridor contains some of the common gum tree species that is usually found along side.



APPENDIX C DESKTOP ASSESSMENT REPORTS



Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 2 Plan: GV69

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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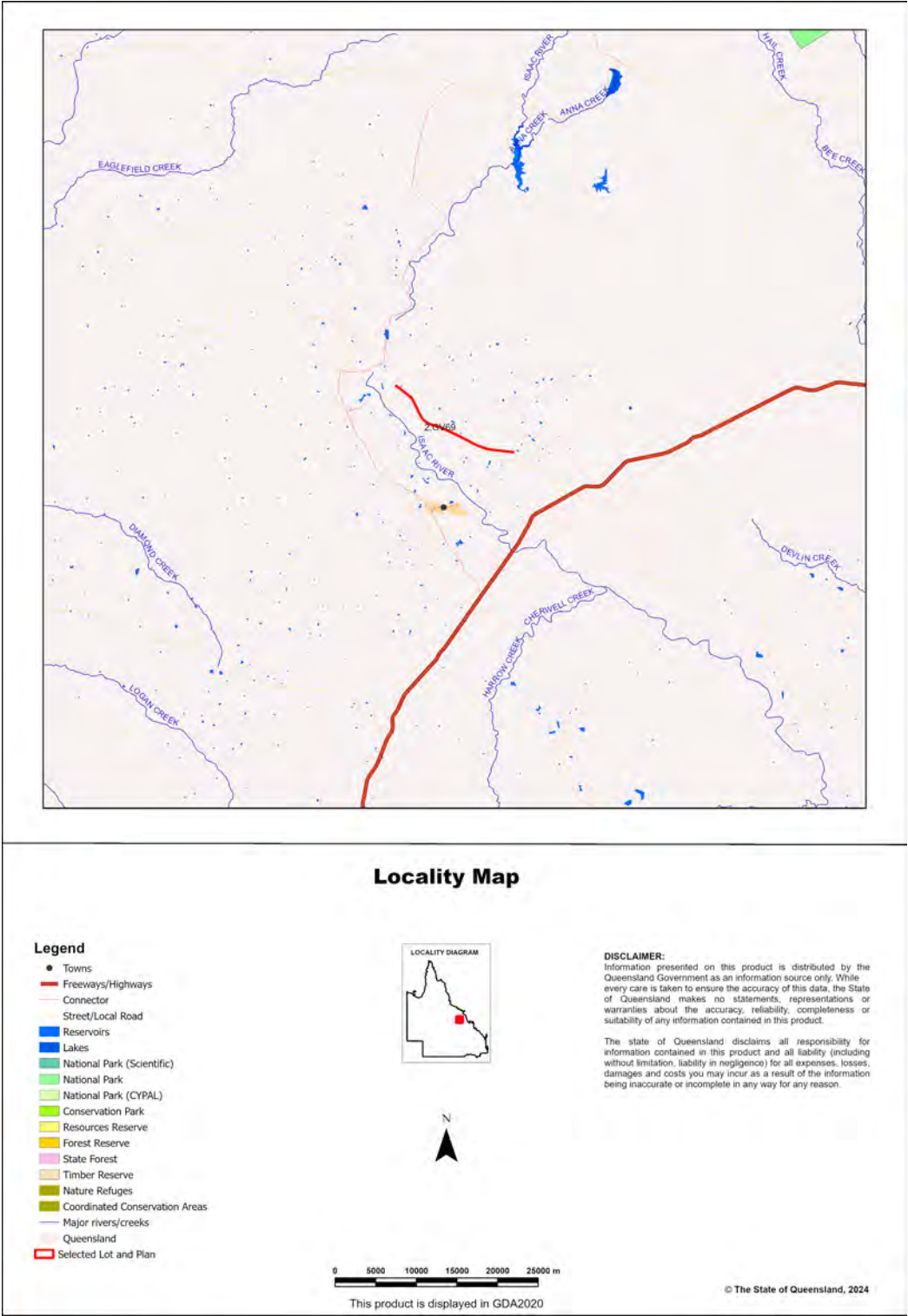
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 2 Plan: GV69, with area 51.06 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004* ;
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008*;
- *Threatened wildlife under the Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	0 ha	0.0%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	0 ha	0.0%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	3.11 ha	6.1%
8d Regulated Vegetation - Essential habitat	0 ha	0.0%
8e Regulated Vegetation - intersecting a watercourse	0.4 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

7b. Special least concern animals

Values are present

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	Core
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	None

Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Tachyglossus aculeatus</i>	short-beaked echidna	None

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Not applicable

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8554

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Not applicable

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

MSES - Offsets**9a. Legally secured offset areas - offset register areas**

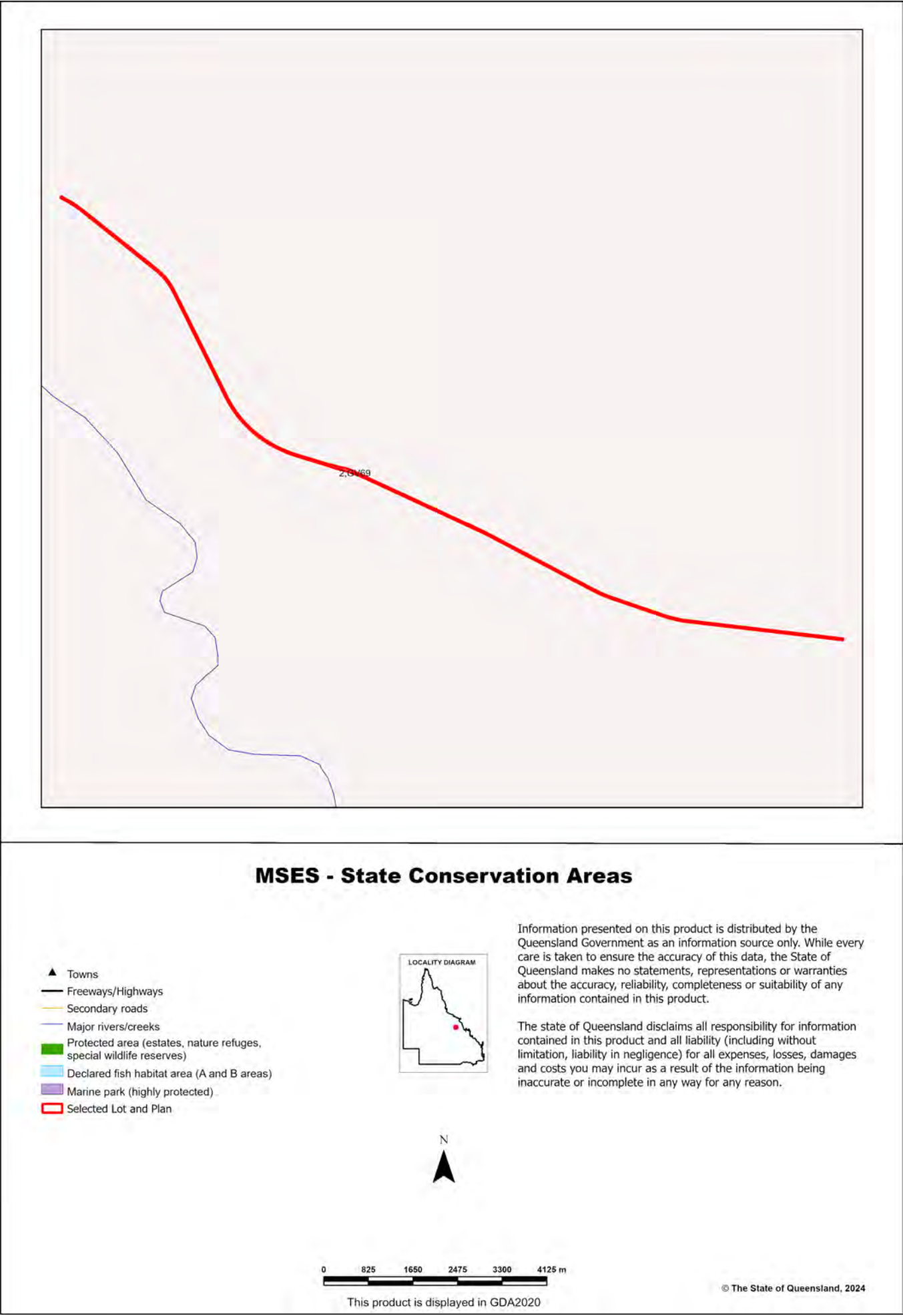
(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

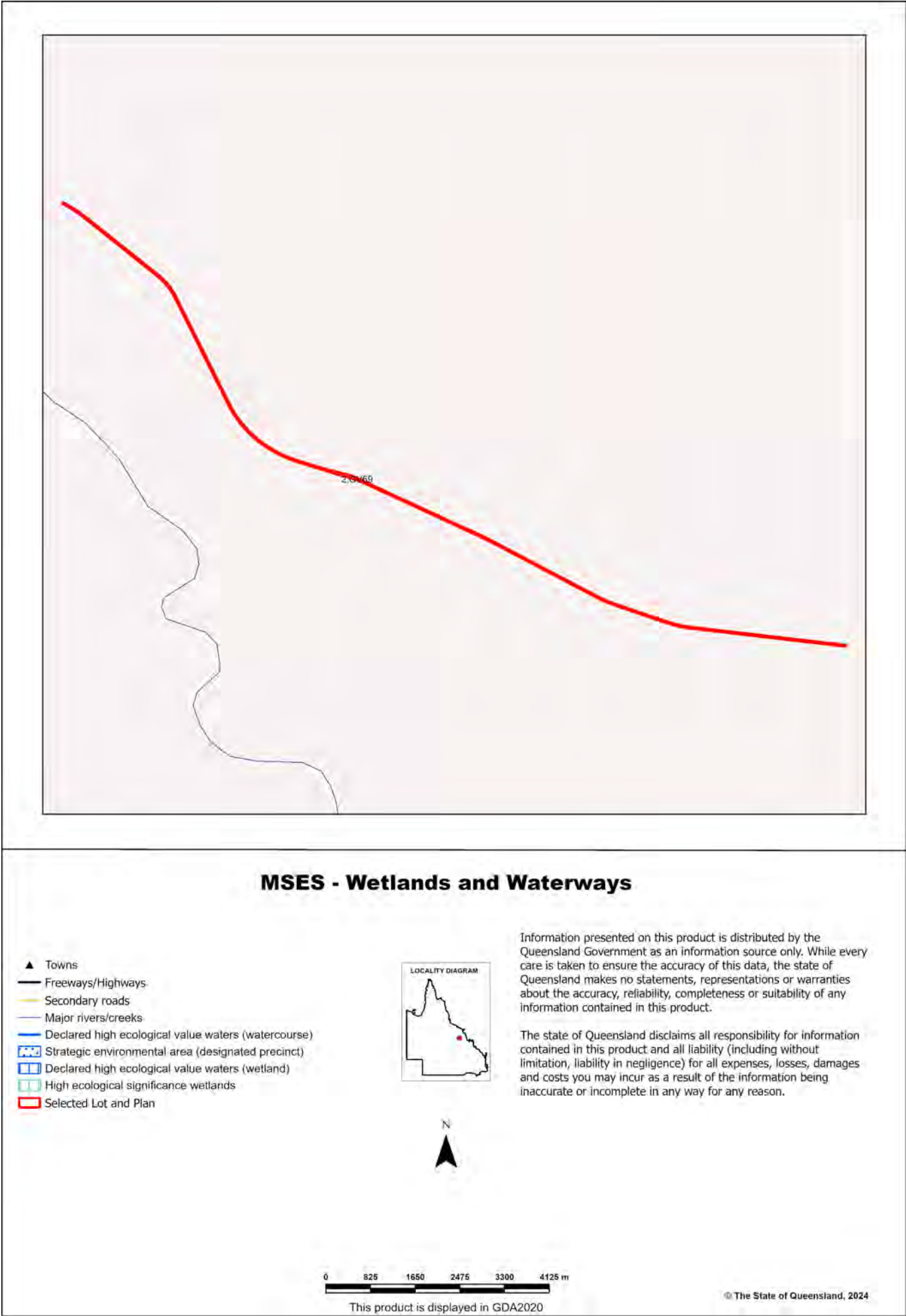
(No results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

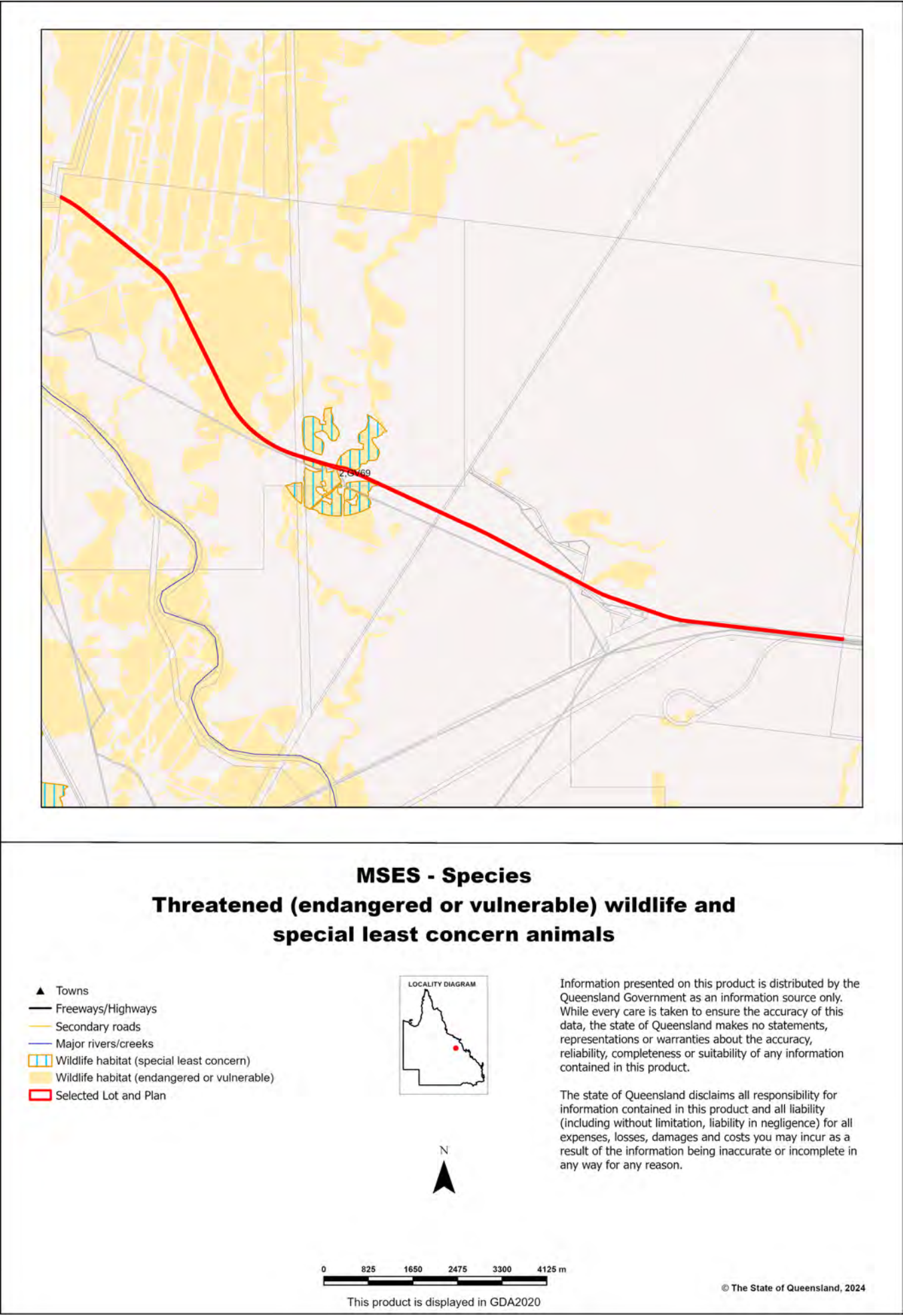
Map 1 - MSES - State Conservation Areas



Map 2 - MSES - Wetlands and Waterways



Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals

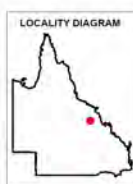


Map 3b - MSES - Species - Koala habitat area (SEQ)



MSES - Species Koala habitat area (SEQ)

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Selected Lot and Plan



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The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area-locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with-koalas/mapping>

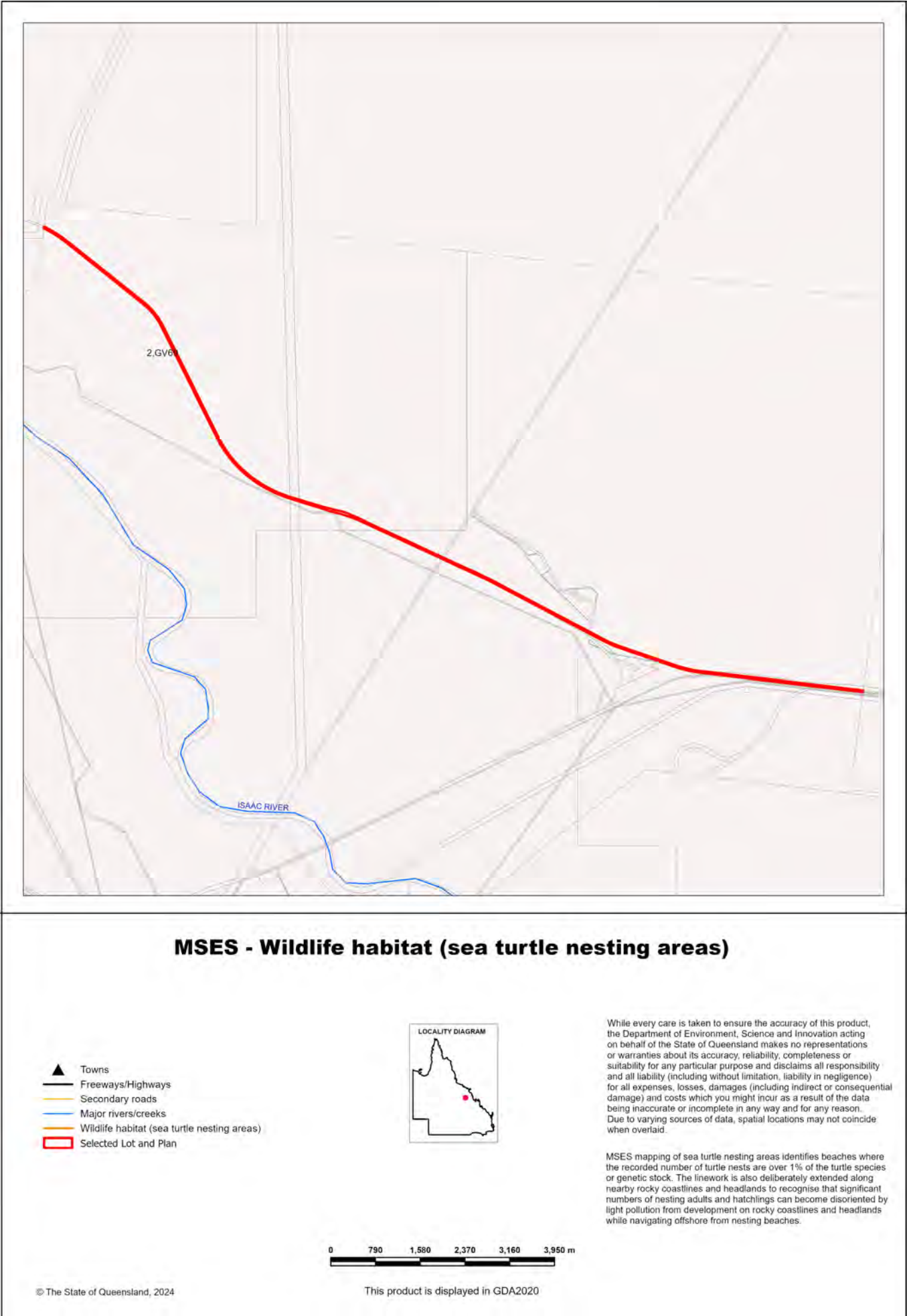
The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

0 790 1,580 2,370 3,160 3,950 m

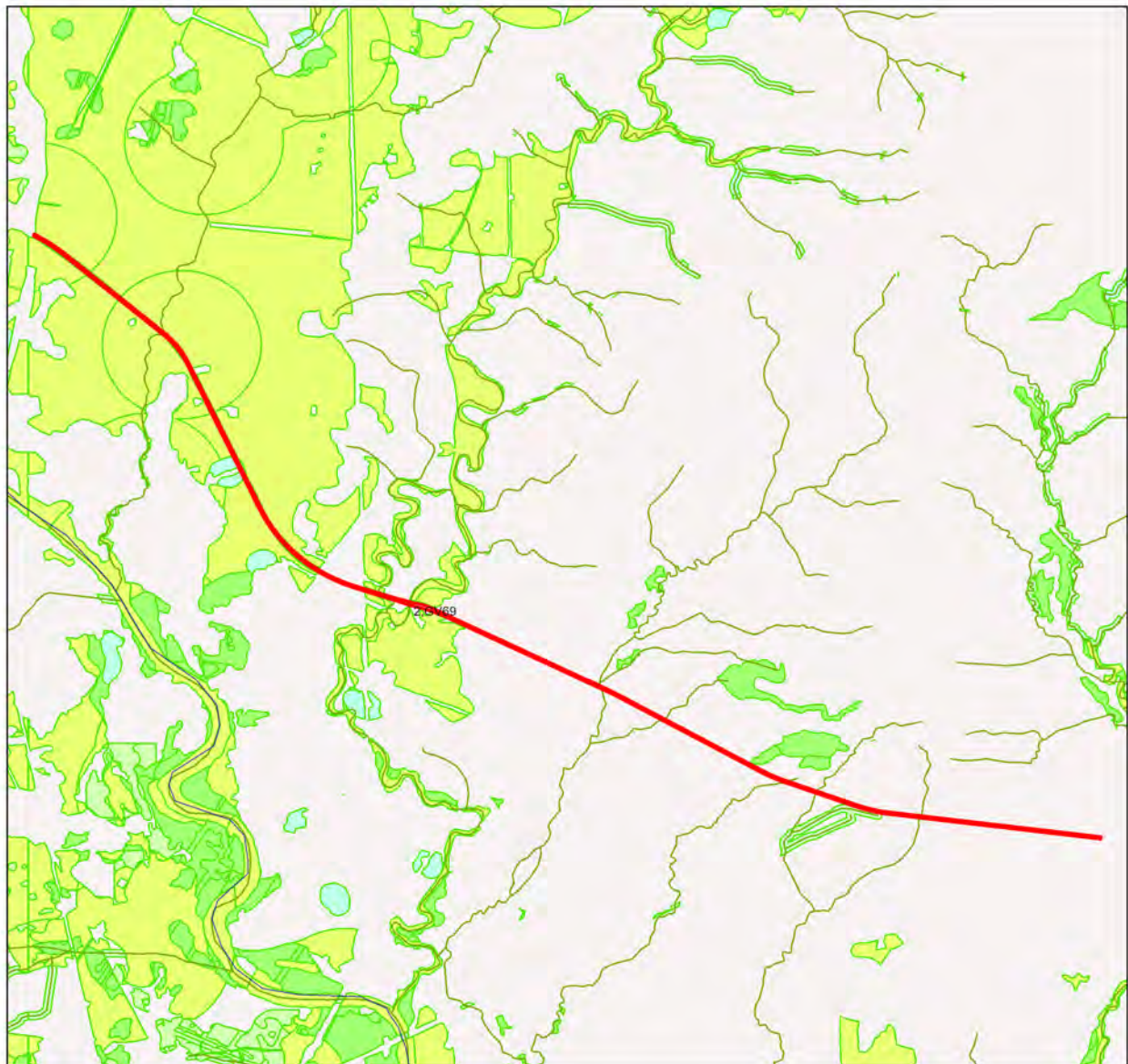
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Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)

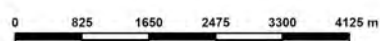
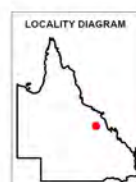


Map 4 - MSES - Regulated Vegetation



MSES - Regulated Vegetation

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Regulated vegetation (intersecting a watercourse)
- Regulated vegetation (100m from wetland)
- Regulated vegetation (category B - endangered or of concern)
- Regulated vegetation (category C - endangered or of concern)
- Regulated vegetation (category R - GBR riverine)
- Regulated vegetation (essential habitat)
- ▭ Selected Lot and Plan

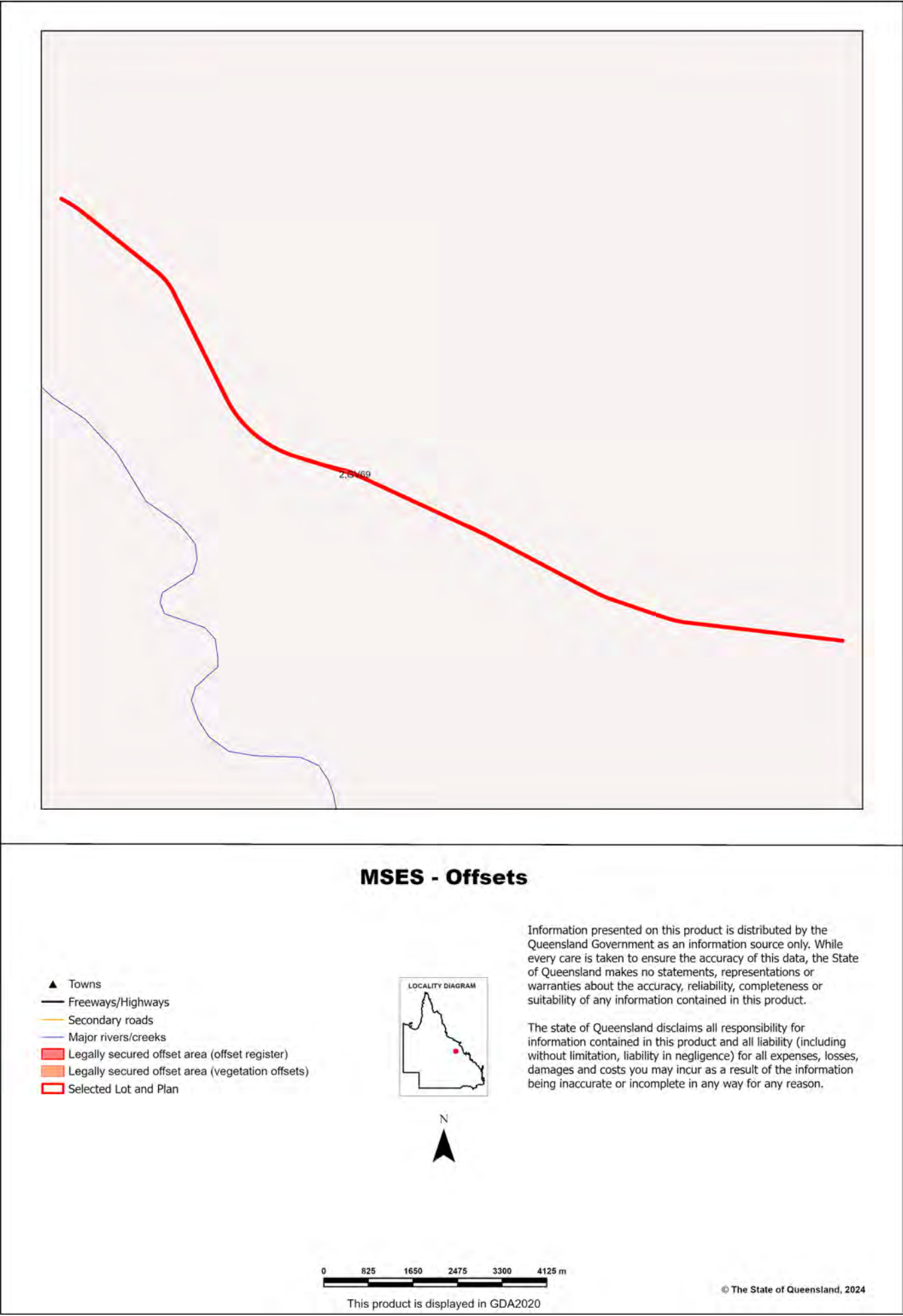


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Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 2 Plan: GV69

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 2020). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

Disclaimer

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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 2 Plan: GV69, with area 51.06 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.00	0.00
Of concern	less than 0.01	less than 0.01
No concern at present	less than 0.01	less than 0.01
Total remnant vegetation	less than 0.01	less than 0.01

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

*****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.*

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
11.3.25	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Of concern	less than 0.01	less than 0.01
11.5.3	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	less than 0.01	less than 0.01
11.5.9	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	less than 0.01	less than 0.01
non-remnant	None	None	51.06	100.00

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.3.25	Pre-clearing 813000 ha; Remnant 2021 531000 ha	16a	Riverine	Low
11.5.3	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low
11.5.9	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
11.3.25	11.3.25: Shown to be associated with a high fauna species richness in the Taroom area (Venz et al. 2002). Within parts of the Fitzroy catchment, this RE is known habitat for the threatened freshwater turtle <i>Rheodytes leukops</i> . Known to be important habitat for other riparian freshwater turtle species. This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.5.3	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.9	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elaeagnifolium</i> .
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	51.06	100.00
16a	Open forest and woodlands dominated by <i>Eucalyptus camaldulensis</i> (river red gum) (or <i>E. tereticornis</i> (blue gum)) and/or <i>E. coolabah</i> (coolabah) (or <i>E. microtheca</i> (coolabah)) fringing drainage lines. Associated species may include <i>Melaleuca</i> spp., <i>Corymbia tessellaris</i> (carbeen), <i>Angophora</i> spp., <i>Casuarina cunninghamiana</i> (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	less than 0.01	less than 0.01
17a	Woodlands dominated by <i>Eucalyptus populnea</i> (poplar box) (or <i>E. brownii</i> (Reid River box)) on alluvium, sand plains and footslopes of hills and ranges.	less than 0.01	less than 0.01
18b	Woodlands dominated <i>Eucalyptus crebra</i> (sens. lat.) (narrow-leaved red ironbark) frequently with <i>Corymbia</i> spp. or <i>Callitris</i> spp. on flat to undulating plains.	less than 0.01	less than 0.01

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See: <http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of: https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community. <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

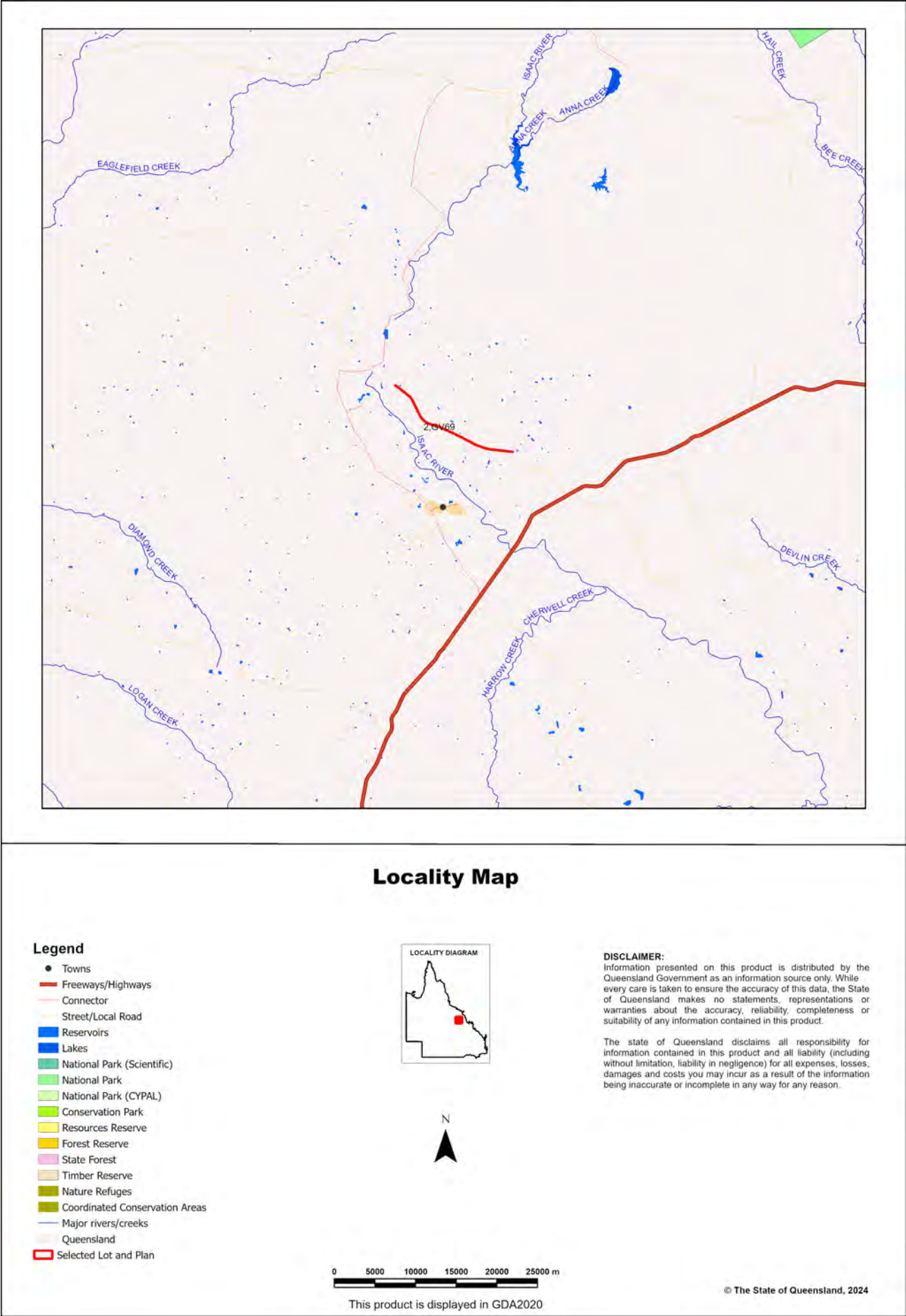
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

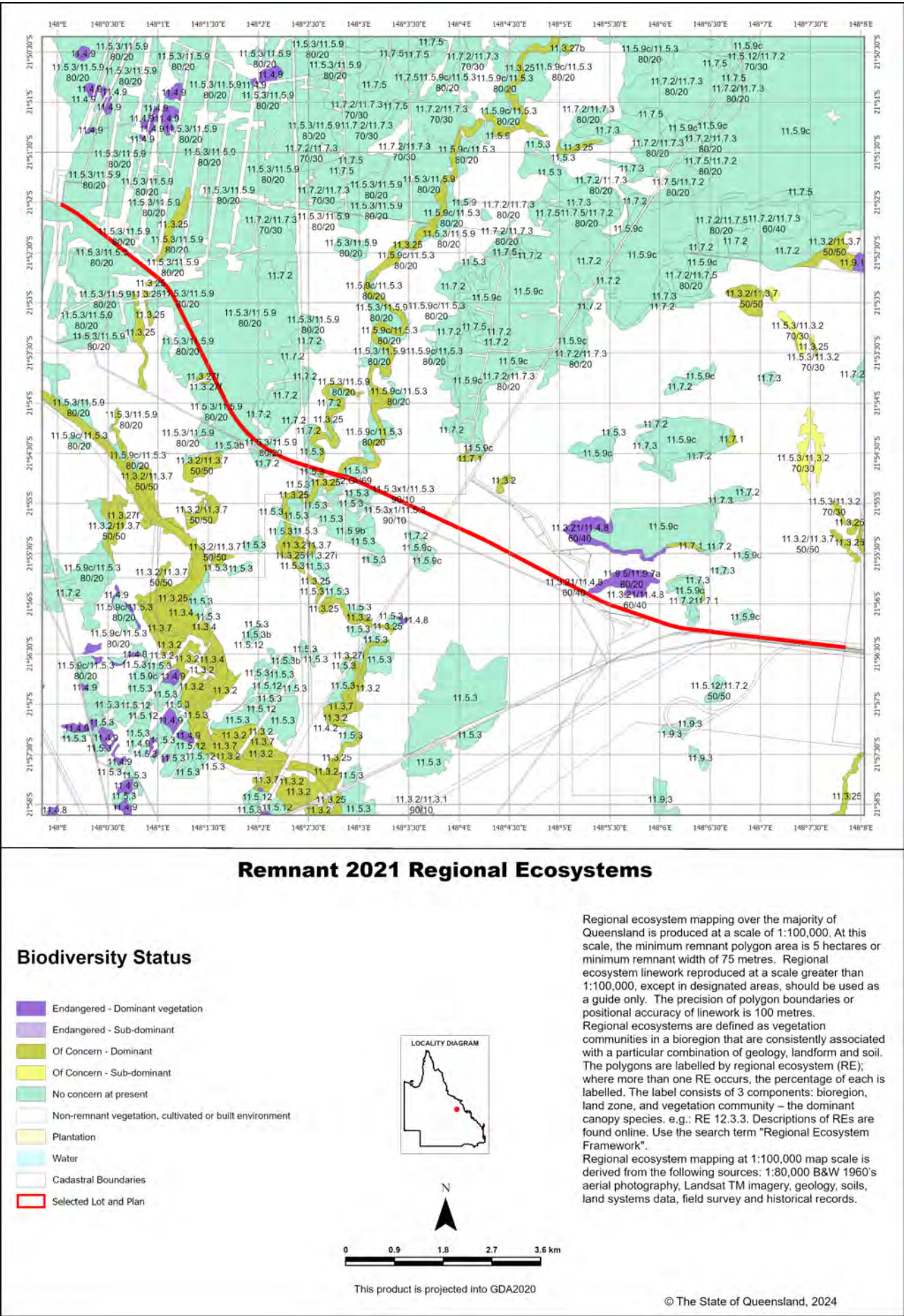
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
11.3.25	Available	Available
11.5.3	Available	Available
11.5.9	Available	Available
non-remnant	Not currently available	Not currently available

Maps

Map 1 - Location

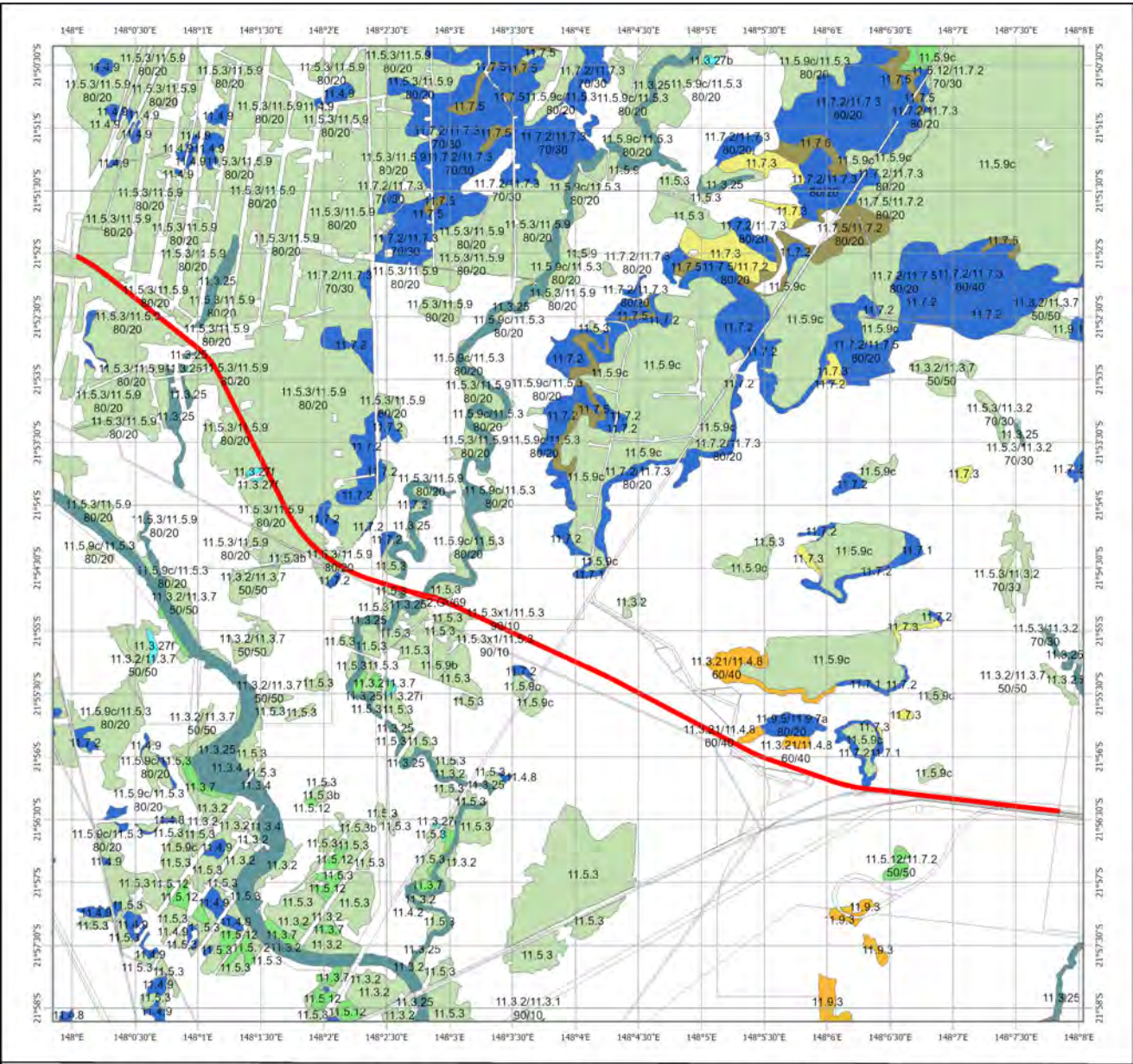


Map 2 - Remnant 2021 regional ecosystems



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Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Remnant 2021 Regional Ecosystems coloured by Broad Vegetation Groups

Broad Vegetation Groups
BVG5M Description (BVG1M codes)

- 1. Rainforests and scrubs (1-7b)
- 2. Wet eucalypt open forests (8-8b)
- 3. Eucalypt woodlands to open forests (mainly eastern Qld) (9-15b)
- 4. Eucalypt open forests to woodlands on floodplains (16-16d)
- 5. Eucalypt dry woodlands on inland depositional plains (17-18d)
- 6. Eucalypt low open woodlands usually with spinifex understorey (19-19d)
- 7. Callitris woodland - open forests (20a)
- 8. Melaleuca open woodlands on depositional plains (21-22c)
- 9. Acacia aneura (mulga) dominated open forests, woodlands and shrublands (23-23b)
- 10. Other acacia dominated open forests, woodlands and shrublands (24-26a)
- 11. Mixed species woodlands, open woodland - (inland bioregions) includes wooded downs (27-27c)
- 12. Other coastal communities or heaths (28-29b)
- 13. Tussock grasslands, forblands (30-32b)
- 14. Hummock grasslands (33-33b)
- 15. Wetlands (swamps and lakes) (34-34g)
- 16. Mangroves and saltmarshes (35-35b)
- Non-remnant vegetation, cultivated or built environment
- Water
- Cadastral Boundaries
- Selected Lot and Plan

LOCALITY DIAGRAM

N

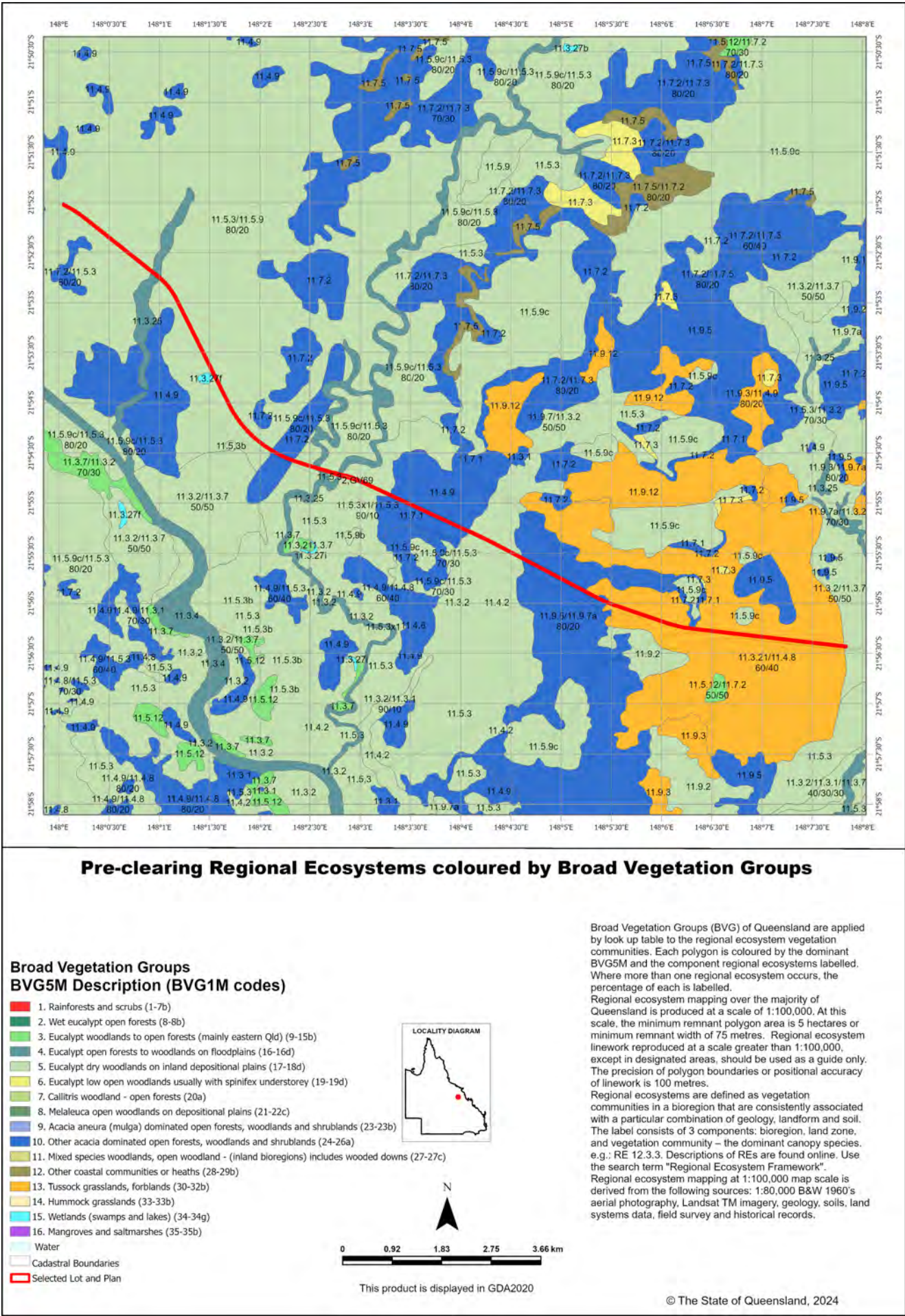
0 0.9 1.8 2.7 3.6 km

This product is displayed in GDA2020

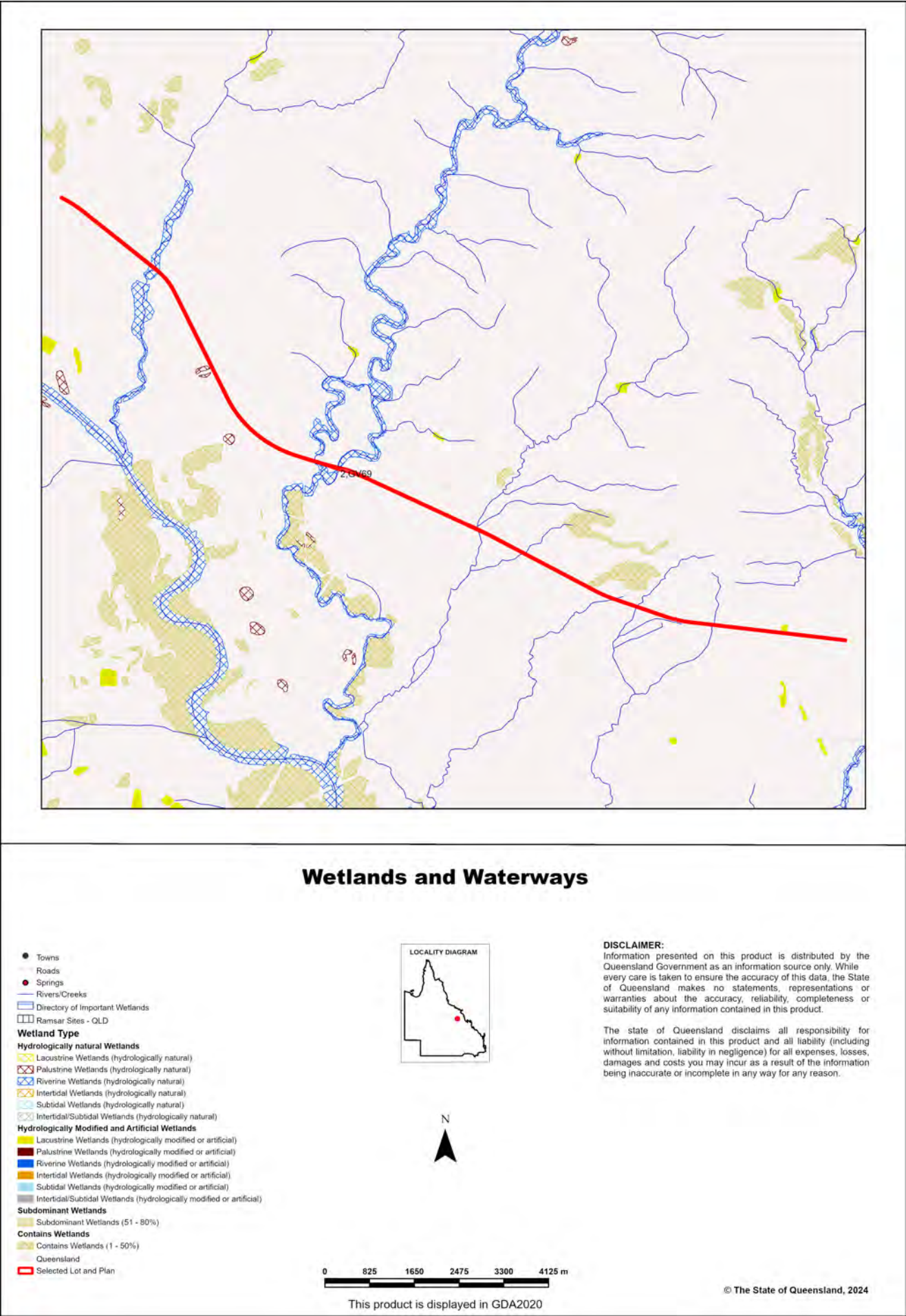
Broad Vegetation Groups (BVG) of Queensland are applied by look up table to the regional ecosystem vegetation communities. Each polygon is coloured by the dominant BVG5M and the component regional ecosystems labelled. Where more than one regional ecosystem occurs, the percentage of each is labelled. Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres. Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework". Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records. Remnant woody vegetation is defined as vegetation that has not been cleared or vegetation that has been cleared but where the dominant canopy has >70% of the height and >50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy. Non-remnant vegetation includes regrowth and disturbed native vegetation.

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Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial/catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

<https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086>

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/environment/land-use/planning-and-development/queensland-spatial-catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 51.06 Lot: 2 Plan: GV69
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 2 Plan: GV69

Table 1. Area of interest details

Size (ha)	
51.06	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

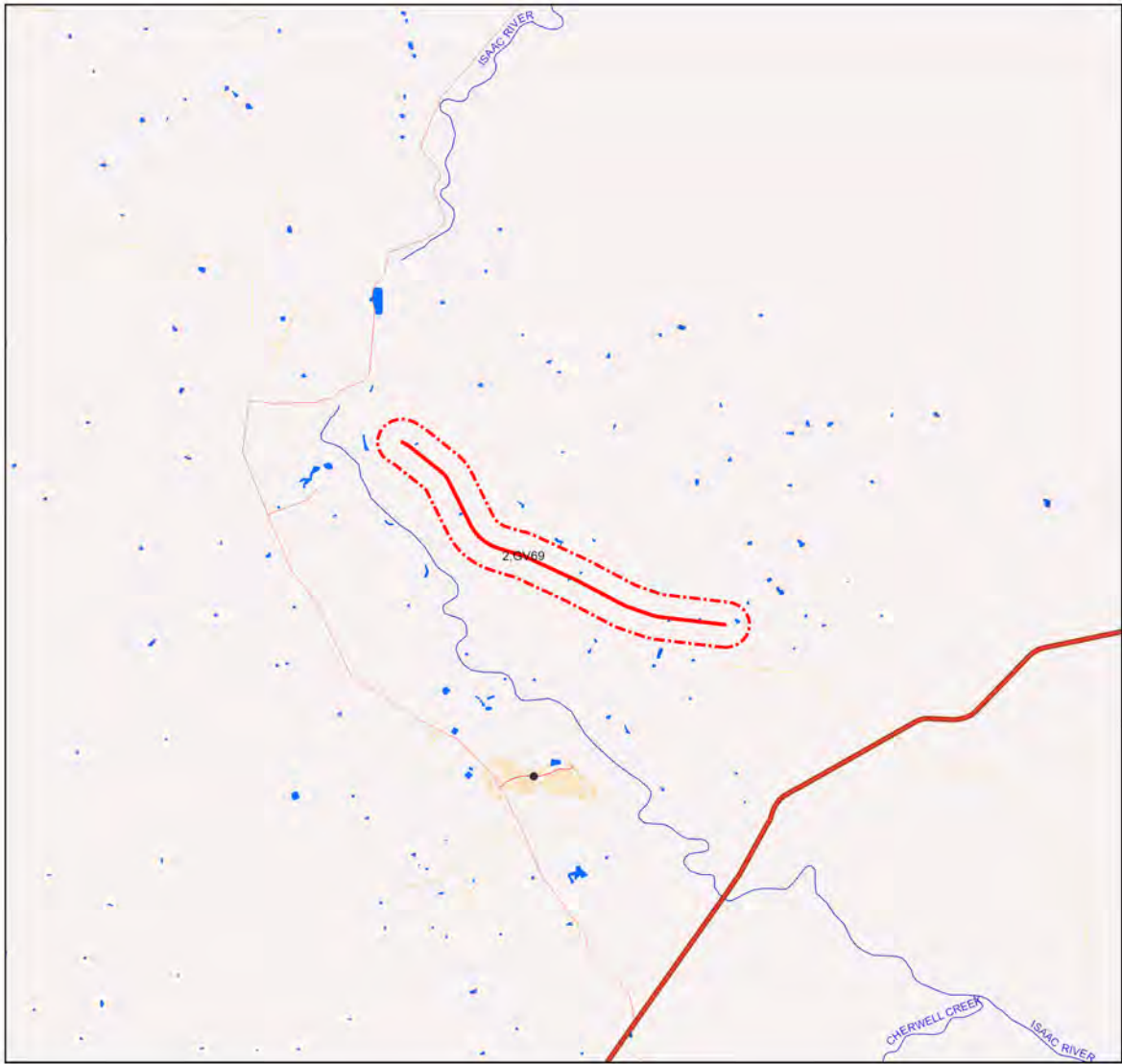
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

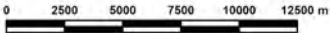
Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - Selected Lot and Plan
 - 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1371	Aves	Acanthizidae	<i>Smicromis brevirostris</i>	weebill	C		0	1	5/2/2012
1654	Aves	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird	C		0	1	5/2/2012
1656	Aves	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird	C		0	1	5/2/2012
1644	Aves	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie	C		0	1	5/2/2012
1645	Aves	Artamidae	<i>Strepera graculina</i>	pied currawong	C		0	1	5/2/2012
1636	Aves	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	C		0	1	5/2/2012
1810	Aves	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove	C		0	1	5/2/2012
1785	Aves	Columbidae	<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	0	3	11/30/2014
1609	Aves	Corvidae	<i>Corvus orru</i>	Torresian crow	C		0	1	5/2/2012
1342	Aves	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch	C		0	1	5/2/2012
1496	Aves	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater	C		0	1	5/2/2012
1499	Aves	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner	C		0	1	5/2/2012
1493	Aves	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird	C		0	1	5/2/2012
1494	Aves	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird	C		0	1	5/2/2012
1392	Aves	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote	C		0	1	5/2/2012
1318	Aves	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler	C		0	1	5/2/2012
1136	Aves	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella	C		0	1	5/2/2012
1576	Aves	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail	C		0	1	5/2/2012
838	Mammalia	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna	SL		0	1	5/24/2012
948	Mammalia	Vespertilionidae	<i>Chalinolobus picatus</i>	little pied bat	C		0	2	5/24/2012
483	Reptilia	Elapidae	<i>Denisonia maculata</i>	ornamental snake	V	V	0	1	12/31/2003

Table 3. Plants recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
23242	Lecanoromycetes	Lecideaceae	<i>Lecidea</i>				3	3	6/18/2007
24426	Lecanoromycetes	Parmeliaceae	<i>Xanthoparmelia ballingalliana</i>		C		2	2	6/15/2007
22988	Lecanoromycetes	Teloschistaceae	<i>Caloplaca cinnabarina</i>		C		1	1	6/15/2007
24295	Lichinomycetes	Peltulaceae	<i>Peltula placodizans</i>		C		1	1	6/15/2007

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

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Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 3 Plan: CP907954

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

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Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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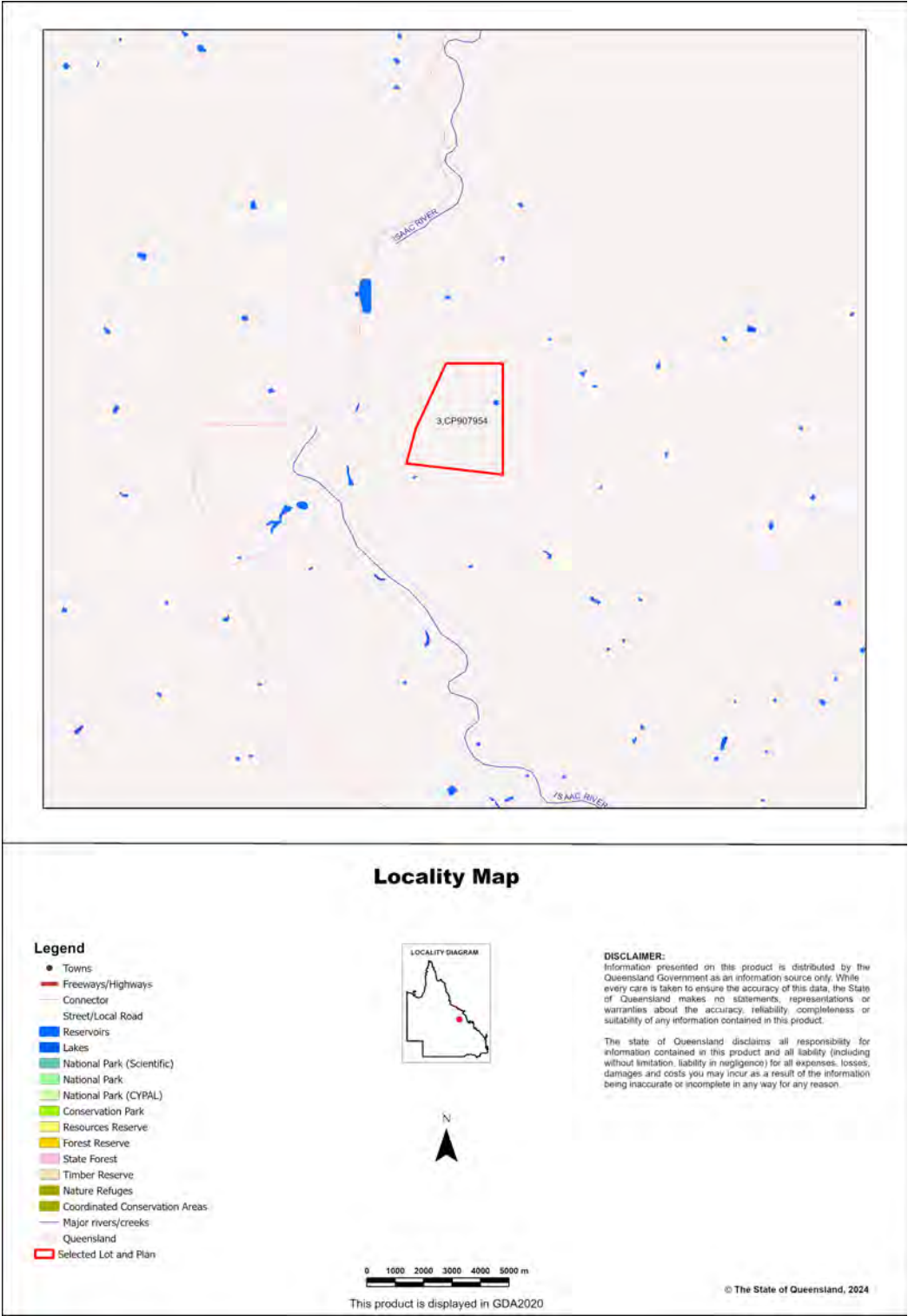
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 3 Plan: CP907954, with area 965.57 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004* ;
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008*;
- *Threatened wildlife under the Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	574 ha	59.4%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	37.42 ha	3.9%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0.25 ha	0.0%
8d Regulated Vegetation - Essential habitat	776.44 ha	80.4%
8e Regulated Vegetation - intersecting a watercourse	5.3 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	4.49 ha	0.5%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

7b. Special least concern animals

Not applicable

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarium casuarium johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	Core
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	None

Special least concern animal species records

(No results)

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

**Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.4.9	E-dom	rem_end

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8554

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Regulated vegetation map category	Map number
B	8554
R	8554

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

MSES - Offsets**9a. Legally secured offset areas - offset register areas**

(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

(No results)

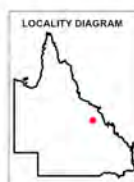
Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

Map 1 - MSES - State Conservation Areas



MSES - State Conservation Areas

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Protected area (estates, nature refuges, special wildlife reserves)
- Declared fish habitat area (A and B areas)
- Marine park (highly protected)
- Selected Lot and Plan



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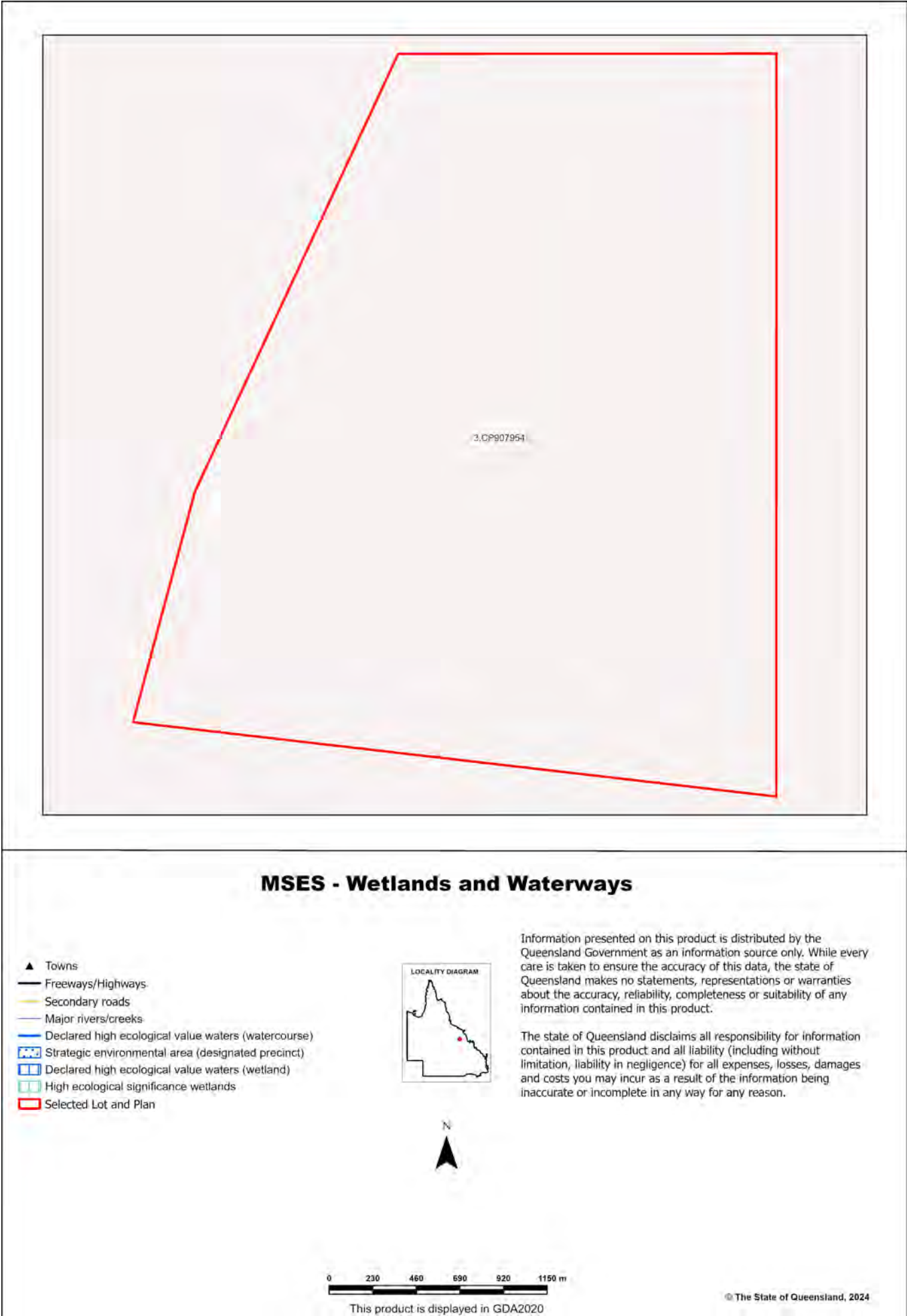
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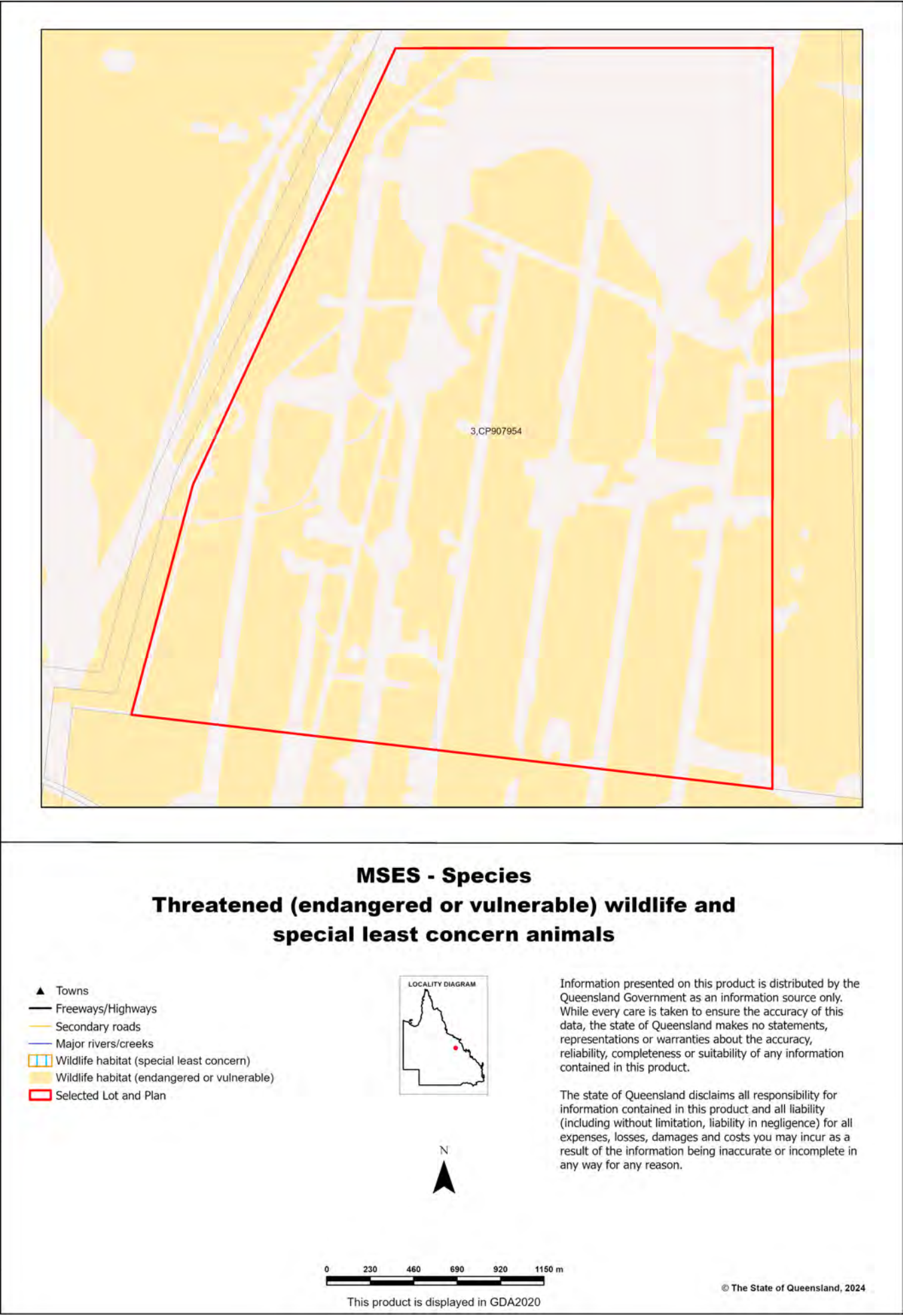
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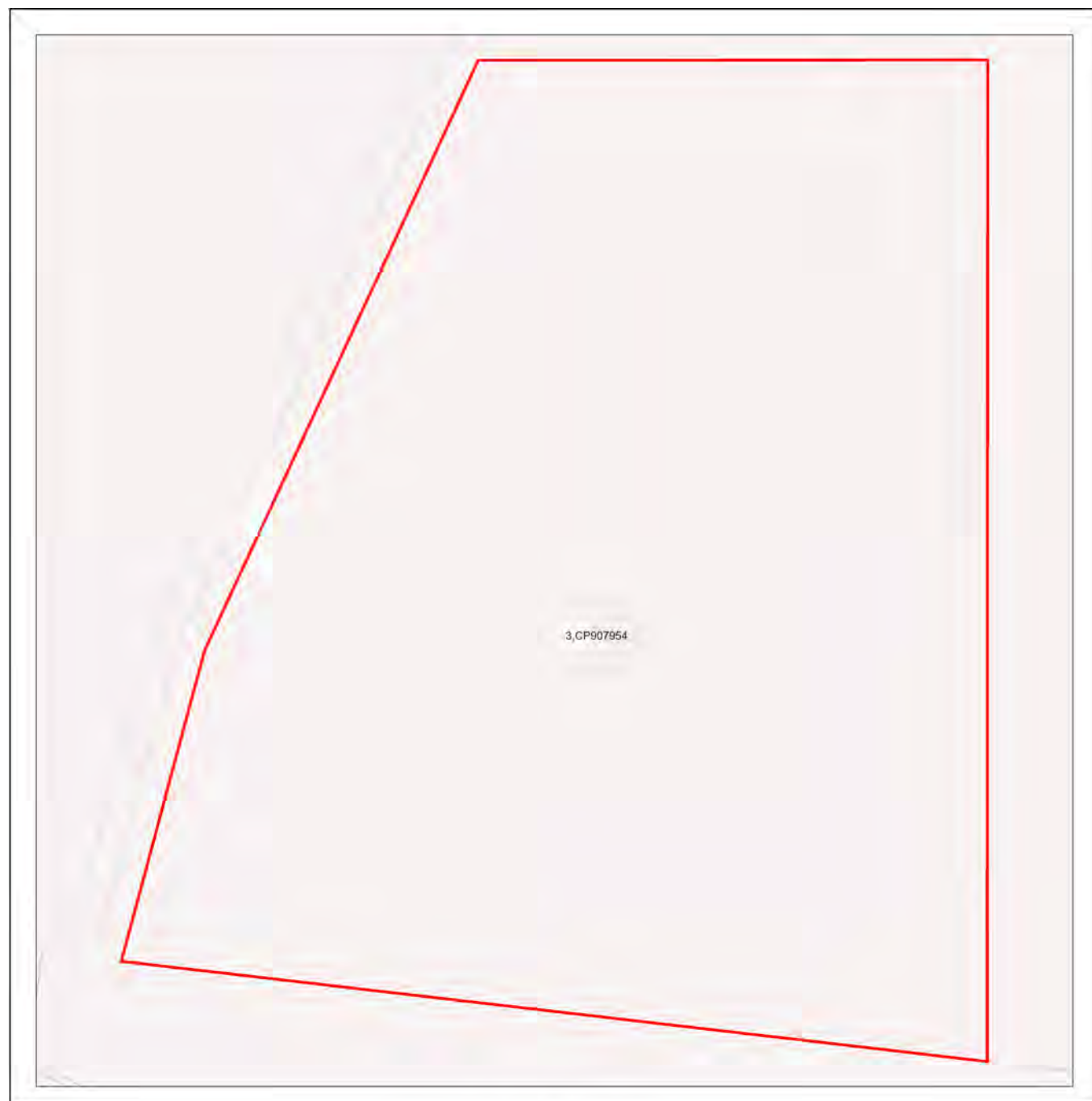
Map 2 - MSES - Wetlands and Waterways










Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals

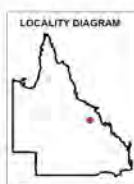


Map 3b - MSES - Species - Koala habitat area (SEQ)



MSES - Species
Koala habitat area (SEQ)

-  Towns
-  Freeways/Highways
-  Secondary roads
-  Major rivers/creeks
-  Koala habitat area (core)
-  Koala habitat area (locally refined)
-  Selected Lot and Plan



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The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area-locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

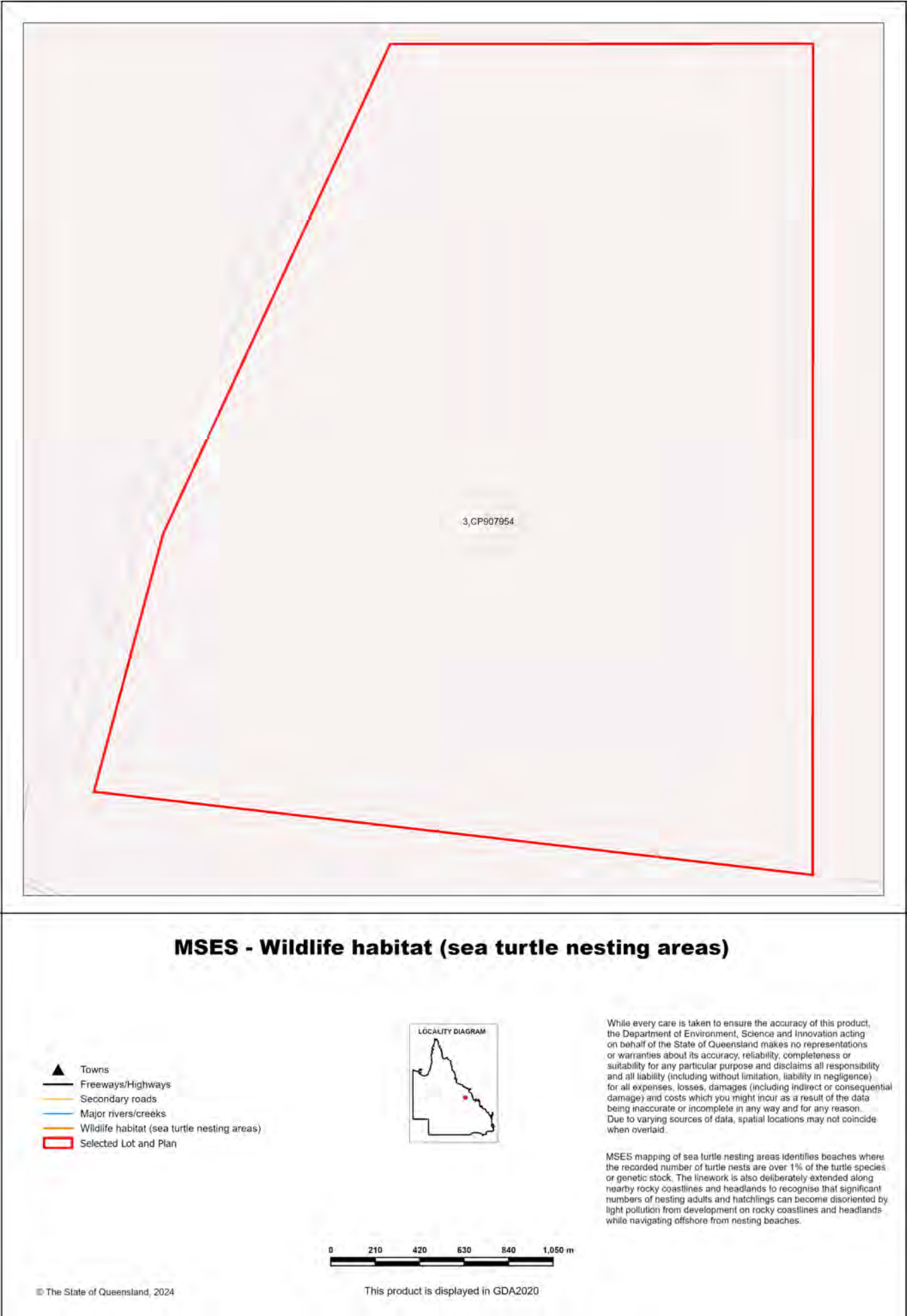
The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.



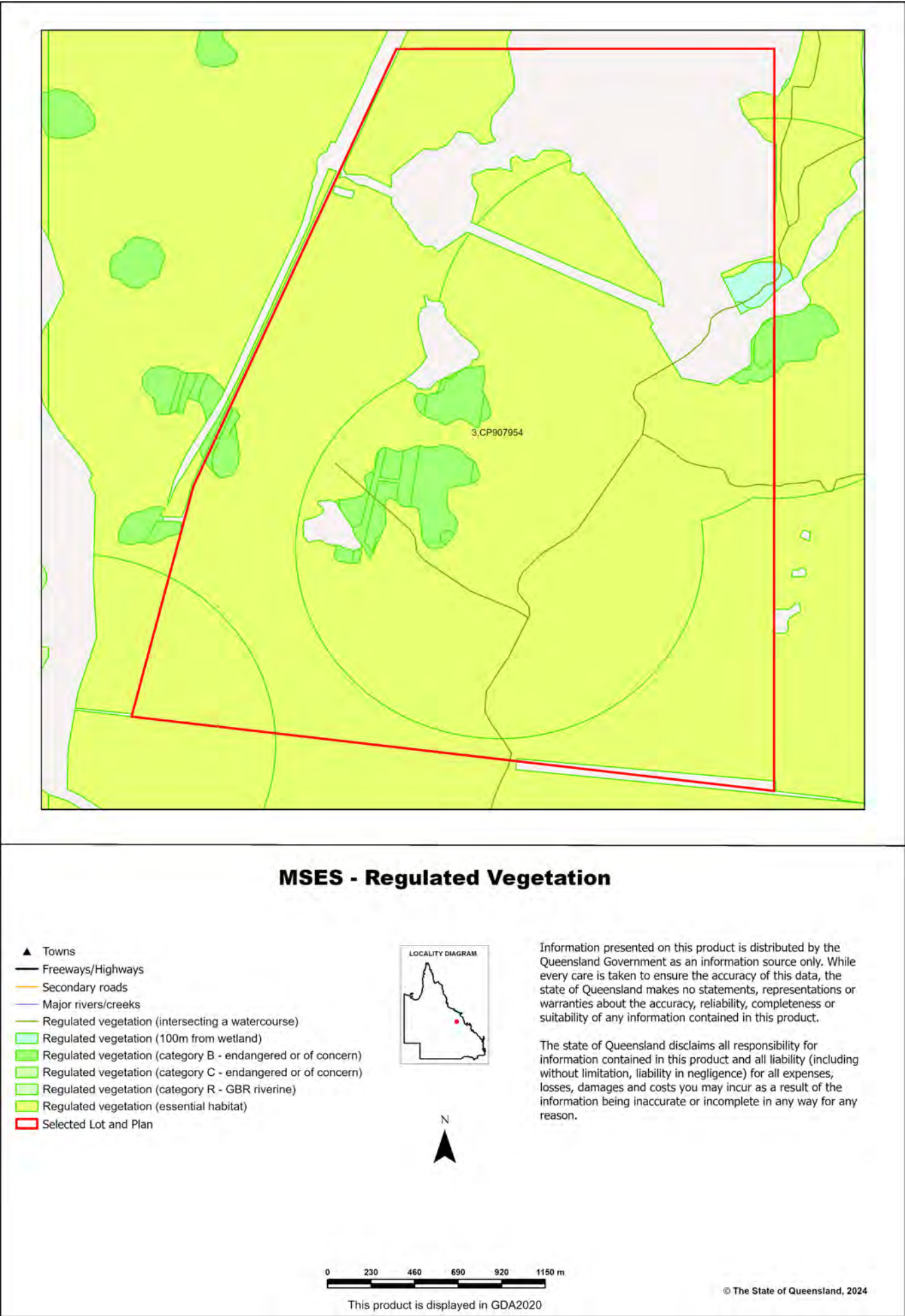
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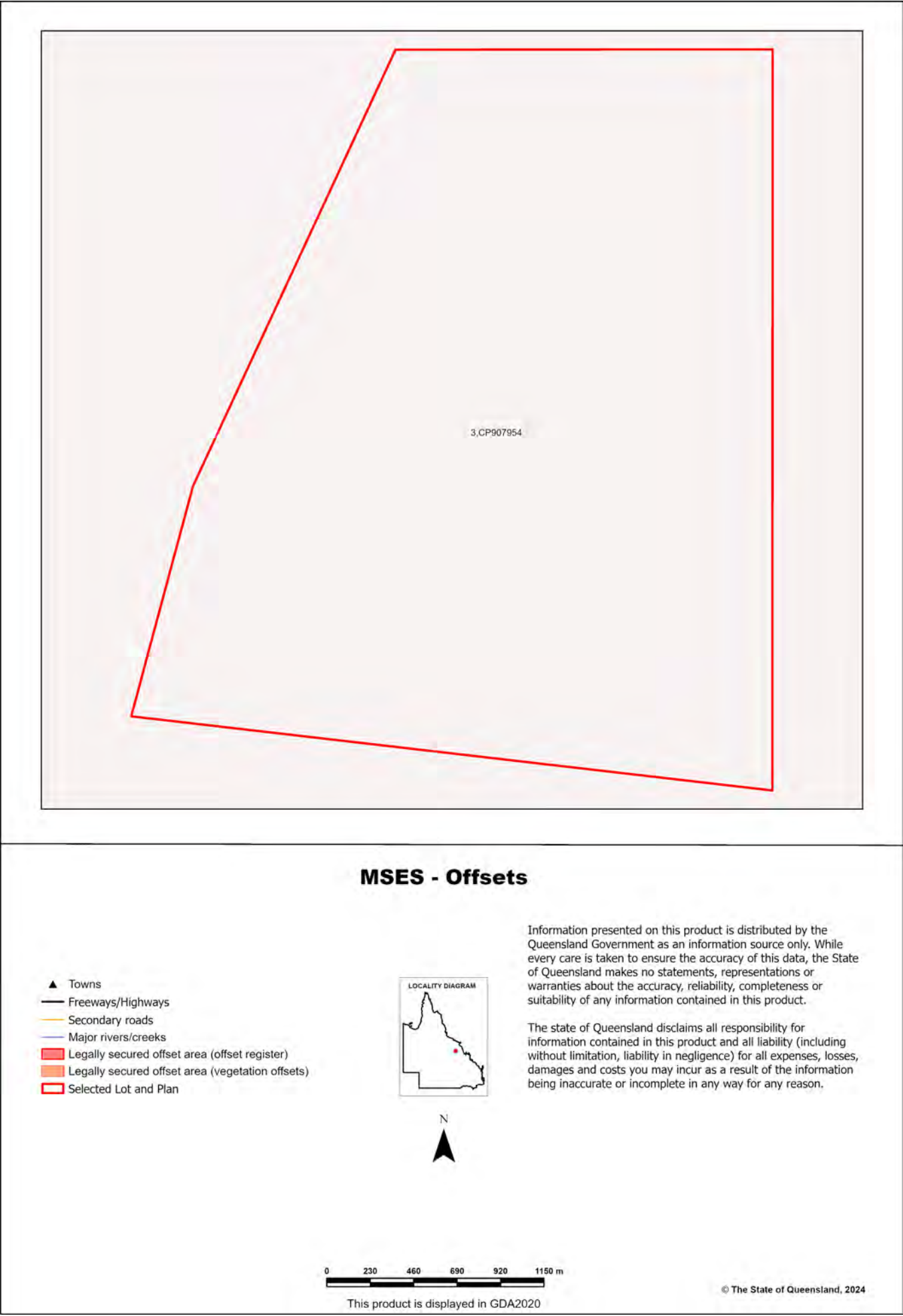
Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 3 Plan: CP907954

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 2020). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 3 Plan: CP907954, with area 965.57 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	29.52	3.06
Of concern	1.24	0.13
No concern at present	541.05	56.03
Total remnant vegetation	571.82	59.22

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

*****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.*

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
11.3.25	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Of concern	1.24	0.13
11.4.9	Acacia harpophylla shrubby woodland with Terminalia oblongata on Cainozoic clay plains	Endangered	29.52	3.06
11.5.3	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	432.84	44.83
11.5.9	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	108.21	11.21
non-remnant	None	None	393.75	40.78

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.3.25	Pre-clearing 813000 ha; Remnant 2021 531000 ha	16a	Riverine	Low
11.4.9	Pre-clearing 989000 ha; Remnant 2021 89000 ha	25a	Contains Palustrine	Low
11.5.3	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.5.9	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
11.3.25	11.3.25: Shown to be associated with a high fauna species richness in the Taroom area (Venz et al. 2002). Within parts of the Fitzroy catchment, this RE is known habitat for the threatened freshwater turtle <i>Rheodytes leukops</i> . Known to be important habitat for other riparian freshwater turtle species. This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.4.9	11.4.9: Potential habitat for NCA listed species: <i>Cadellia pentastylis</i> , <i>Solanum adenophorum</i> , <i>Solanum dissectum</i> , <i>Solanum elachophyllum</i> , <i>Solanum johnsonianum</i> , <i>Xerothamnella herbacea</i> .
11.5.3	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.9	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elachophyllum</i> .
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	393.75	40.78

BVG (1 Million)	Description	Area (Ha)	% of AOI
16a	Open forest and woodlands dominated by <i>Eucalyptus camaldulensis</i> (river red gum) (or <i>E. tereticornis</i> (blue gum)) and/or <i>E. coolabah</i> (coolabah) (or <i>E. microtheca</i> (coolabah)) fringing drainage lines. Associated species may include <i>Melaleuca</i> spp., <i>Corymbia tessellaris</i> (carbeen), <i>Angophora</i> spp., <i>Casuarina cunninghamiana</i> (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	1.24	0.13
17a	Woodlands dominated by <i>Eucalyptus populnea</i> (poplar box) (or <i>E. brownii</i> (Reid River box)) on alluvium, sand plains and footslopes of hills and ranges.	432.84	44.83
18b	Woodlands dominated <i>Eucalyptus crebra</i> (sens. lat.) (narrow-leaved red ironbark) frequently with <i>Corymbia</i> spp. or <i>Callitris</i> spp. on flat to undulating plains.	108.21	11.21
25a	Open forests to woodlands dominated by <i>Acacia harpophylla</i> (brigalow) sometimes with <i>Casuarina cristata</i> (belah) on heavy clay soils. Includes areas co-dominated with <i>A. cambagei</i> (gidgee) and/or emergent eucalypts.	29.52	3.06

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See: <http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of: https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community. <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

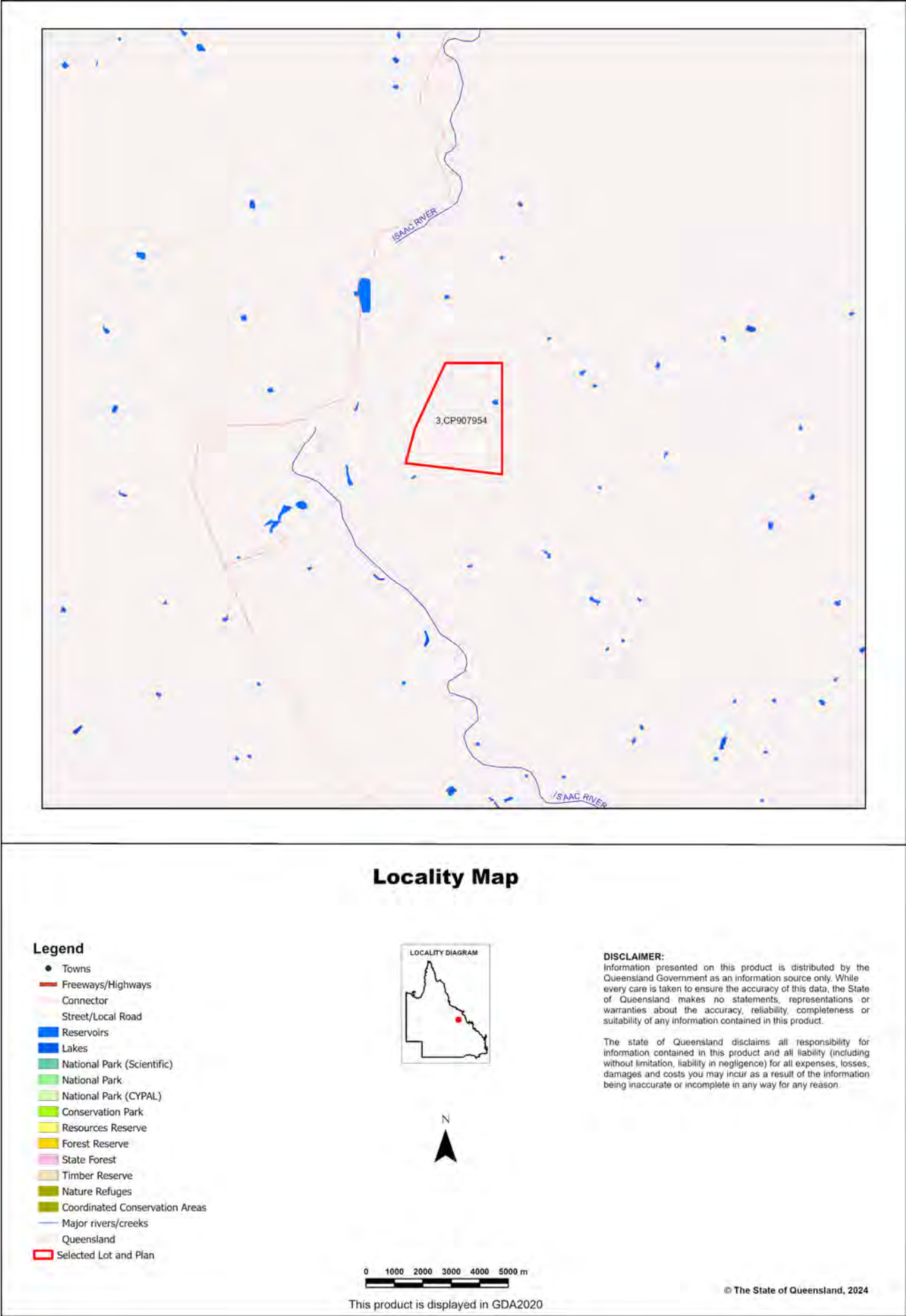
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

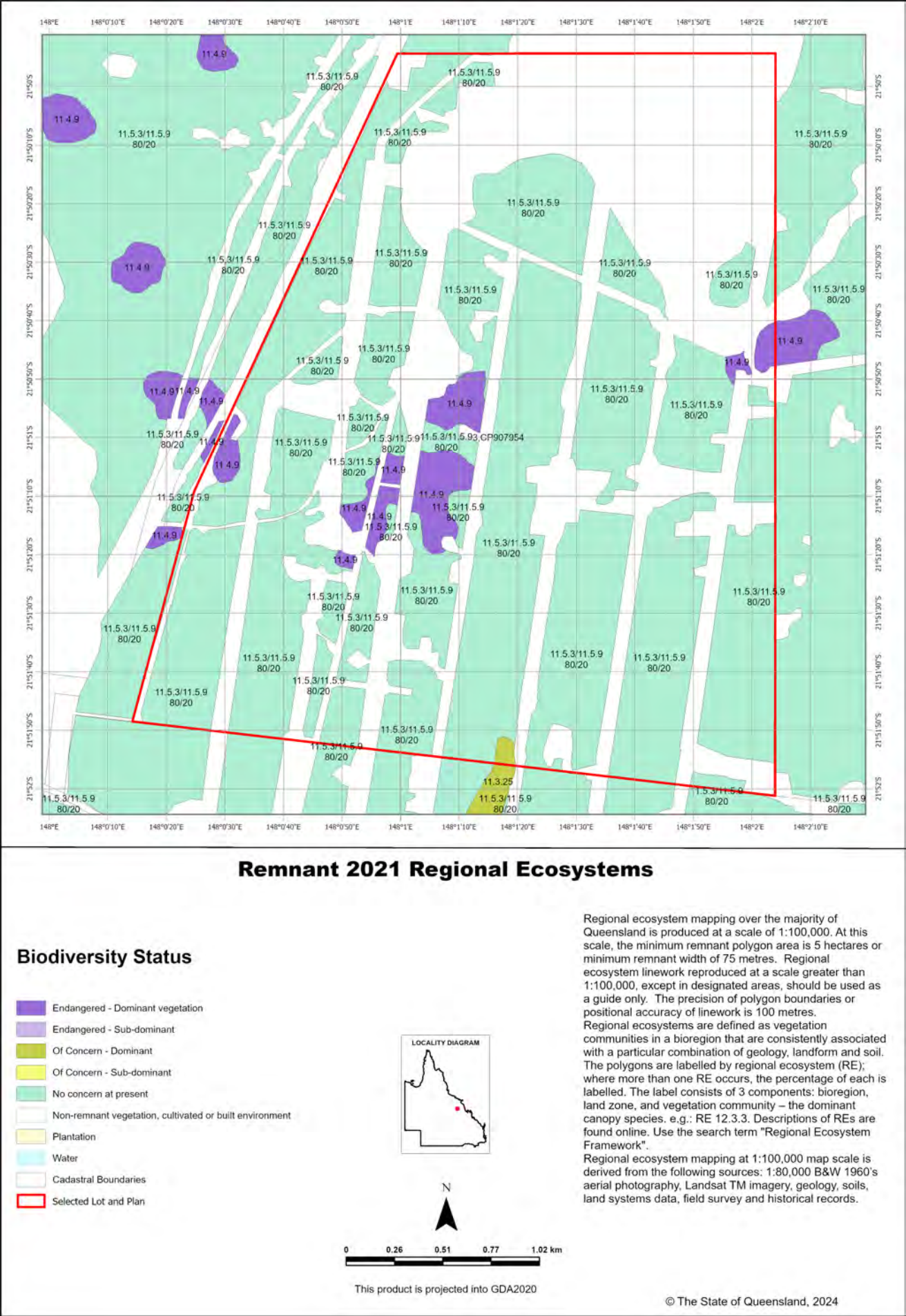
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
11.3.25	Available	Available
11.4.9	Available	Available
11.5.3	Available	Available
11.5.9	Available	Available
non-remnant	Not currently available	Not currently available

Maps

Map 1 - Location



Map 2 - Remnant 2021 regional ecosystems



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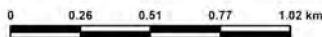
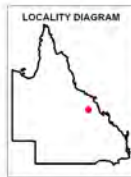
Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Remnant 2021 Regional Ecosystems coloured by Broad Vegetation Groups

Broad Vegetation Groups
BVG5M Description (BVG1M codes)

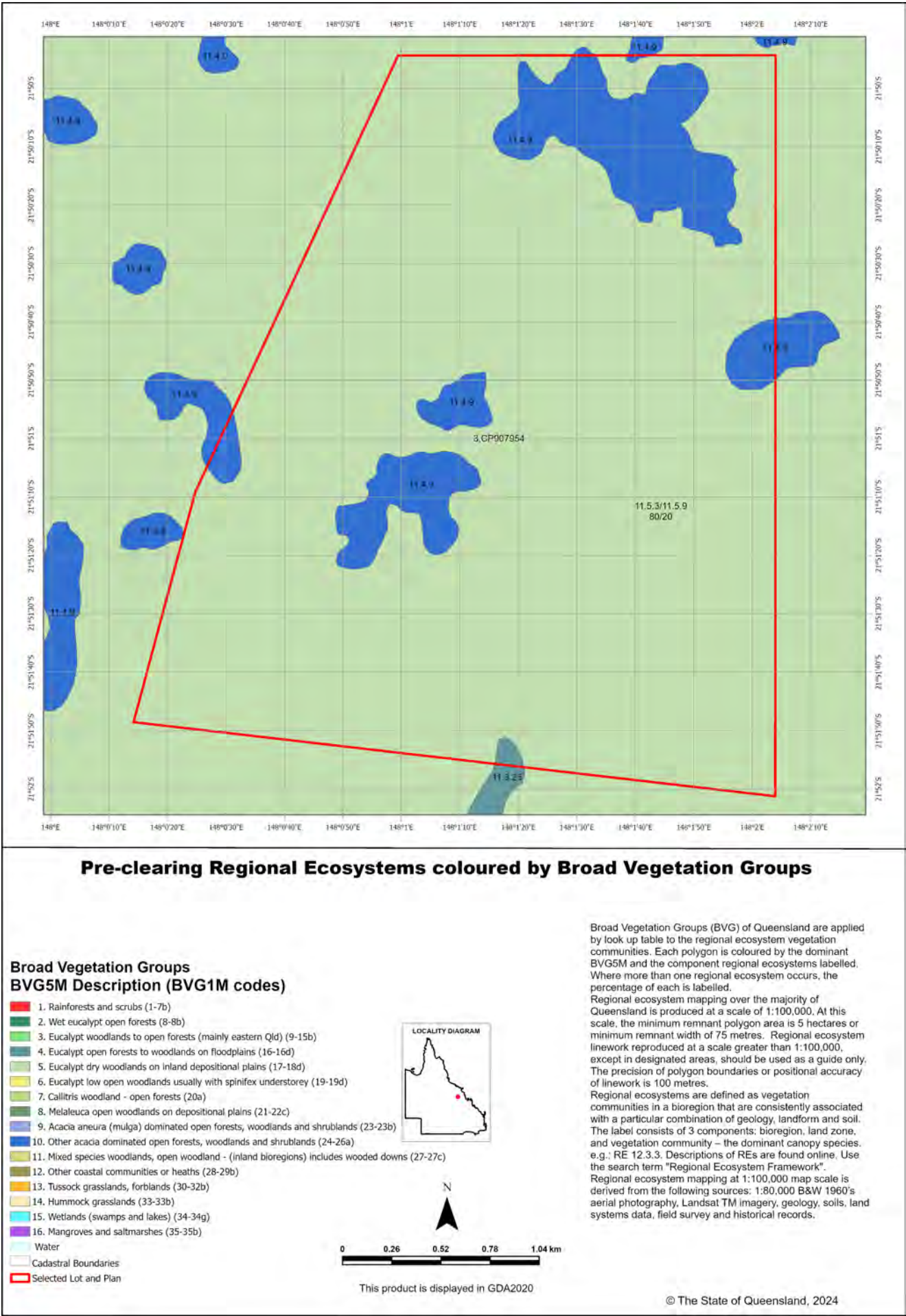
- 1. Rainforests and scrubs (1-7b)
- 2. Wet eucalypt open forests (8-8b)
- 3. Eucalypt woodlands to open forests (mainly eastern Qld) (9-15b)
- 4. Eucalypt open forests to woodlands on floodplains (16-16d)
- 5. Eucalypt dry woodlands on inland depositional plains (17-18d)
- 6. Eucalypt low open woodlands usually with spinifex understorey (19-19d)
- 7. Callitris woodland - open forests (20a)
- 8. Melaleuca open woodlands on depositional plains (21-22c)
- 9. Acacia aneura (mulga) dominated open forests, woodlands and shrublands (23-23b)
- 10. Other acacia dominated open forests, woodlands and shrublands (24-26a)
- 11. Mixed species woodlands, open woodland - (inland bioregions) includes wooded downs (27-27c)
- 12. Other coastal communities or heaths (28-29b)
- 13. Tussock grasslands, forblands (30-32b)
- 14. Hummock grasslands (33-33b)
- 15. Wetlands (swamps and lakes) (34-34g)
- 16. Mangroves and saltmarshes (35-35b)
- Non-remnant vegetation, cultivated or built environment
- Water
- Cadastral Boundaries
- Selected Lot and Plan



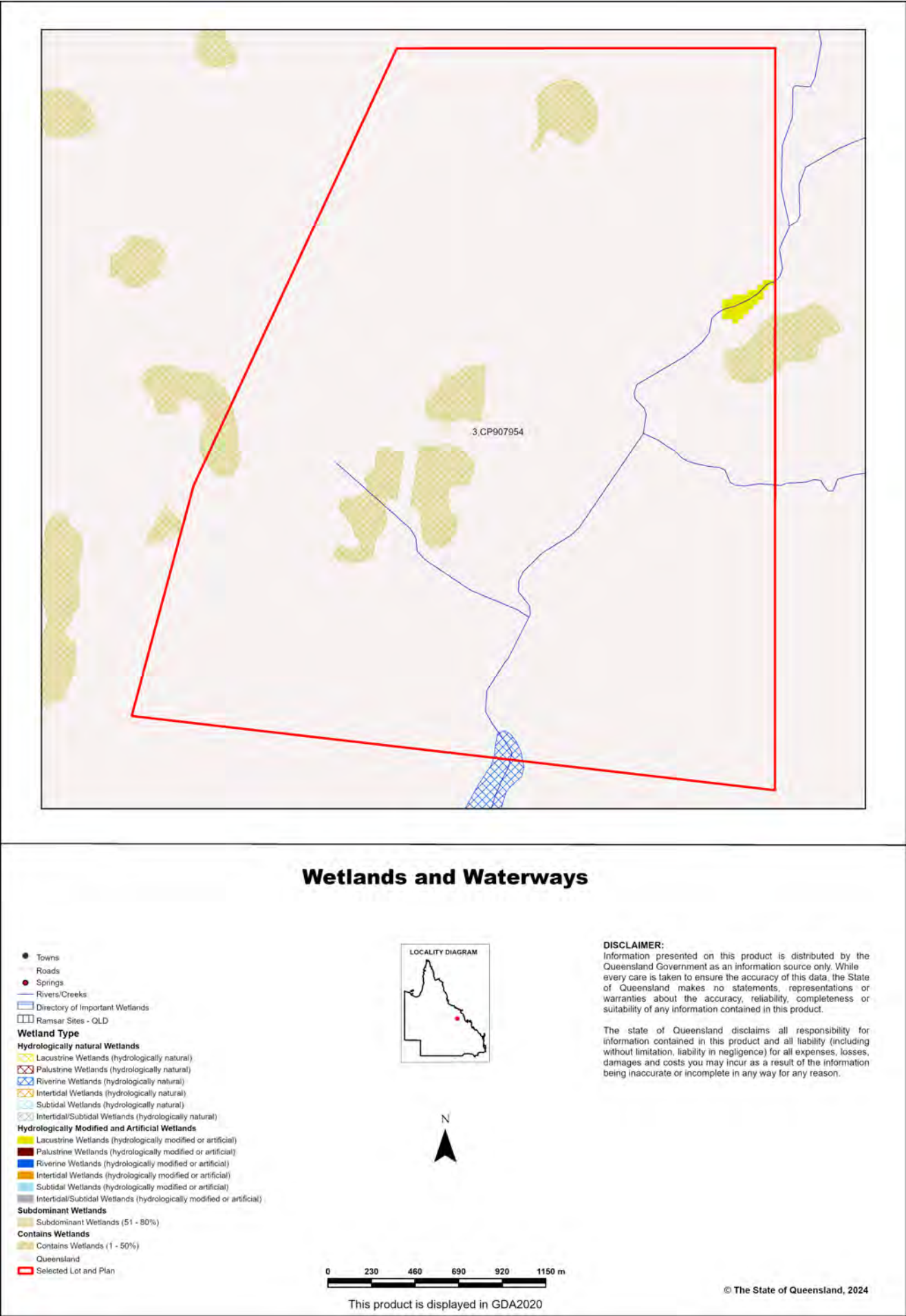
This product is displayed in GDA2020

Broad Vegetation Groups (BVG) of Queensland are applied by look up table to the regional ecosystem vegetation communities. Each polygon is coloured by the dominant BVG5M and the component regional ecosystems labelled. Where more than one regional ecosystem occurs, the percentage of each is labelled. Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres. Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework". Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records. Remnant woody vegetation is defined as vegetation that has not been cleared or vegetation that has been cleared but where the dominant canopy has >70% of the height and >50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy. Non-remnant vegetation includes regrowth and disturbed native vegetation.

Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial-catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

<https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086>

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/information/spatial/catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 965.57 Lot: 3 Plan: CP907954
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 3 Plan: CP907954

Table 1. Area of interest details

Size (ha)	
965.57	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

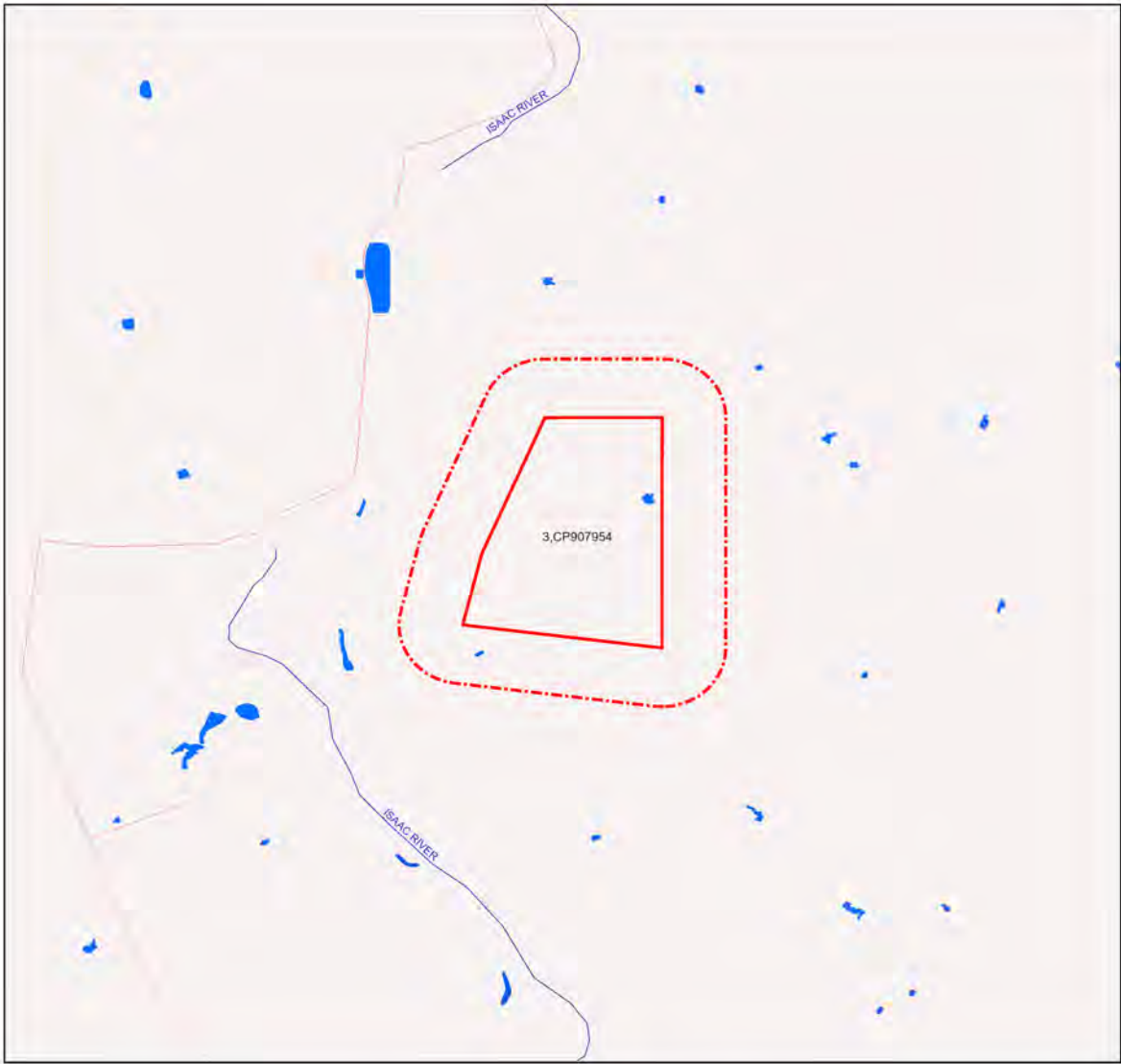
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

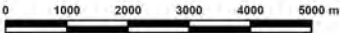
Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - Selected Lot and Plan
 - 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 3. Plants recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

Disclaimer

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Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 15 Plan: SP308954

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

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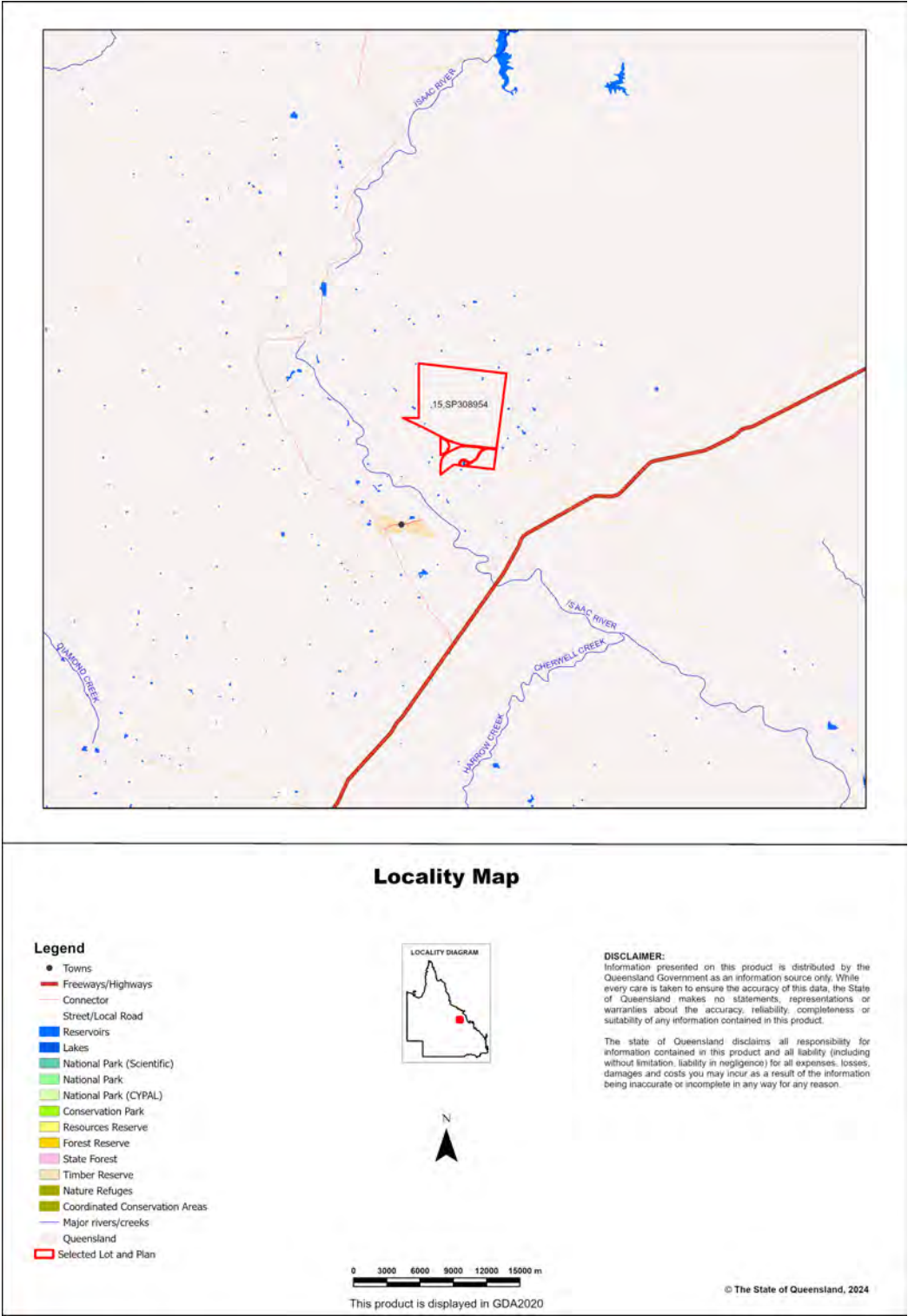
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 15 Plan: SP308954, with area 5405.54 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004 ;*
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;*
- *Threatened wildlife under the Nature Conservation Act 1992 and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;*
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014 ;*
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	148.01 ha	2.7%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	124.25 ha	2.3%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	43.77 ha	0.8%
8d Regulated Vegetation - Essential habitat	129.6 ha	2.4%
8e Regulated Vegetation - intersecting a watercourse	57.2 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

7b. Special least concern animals

Not applicable

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	Core
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

(No results)

Special least concern animal species records

(No results)

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

**Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.1	E-dom	rem_end
11.3.2	O-dom	rem_oc
11.3.2/11.3.7	O-dom	rem_oc
11.3.21/11.4.8	E-subdom	rem_end
11.4.2	O-dom	rem_oc
11.5.3/11.3.2	O-subdom	rem_oc
11.9.5/11.9.7a	E-dom	rem_end
11.9.7a/11.3.2	O-dom	rem_oc

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8554

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Not applicable

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

MSES - Offsets

9a. Legally secured offset areas - offset register areas

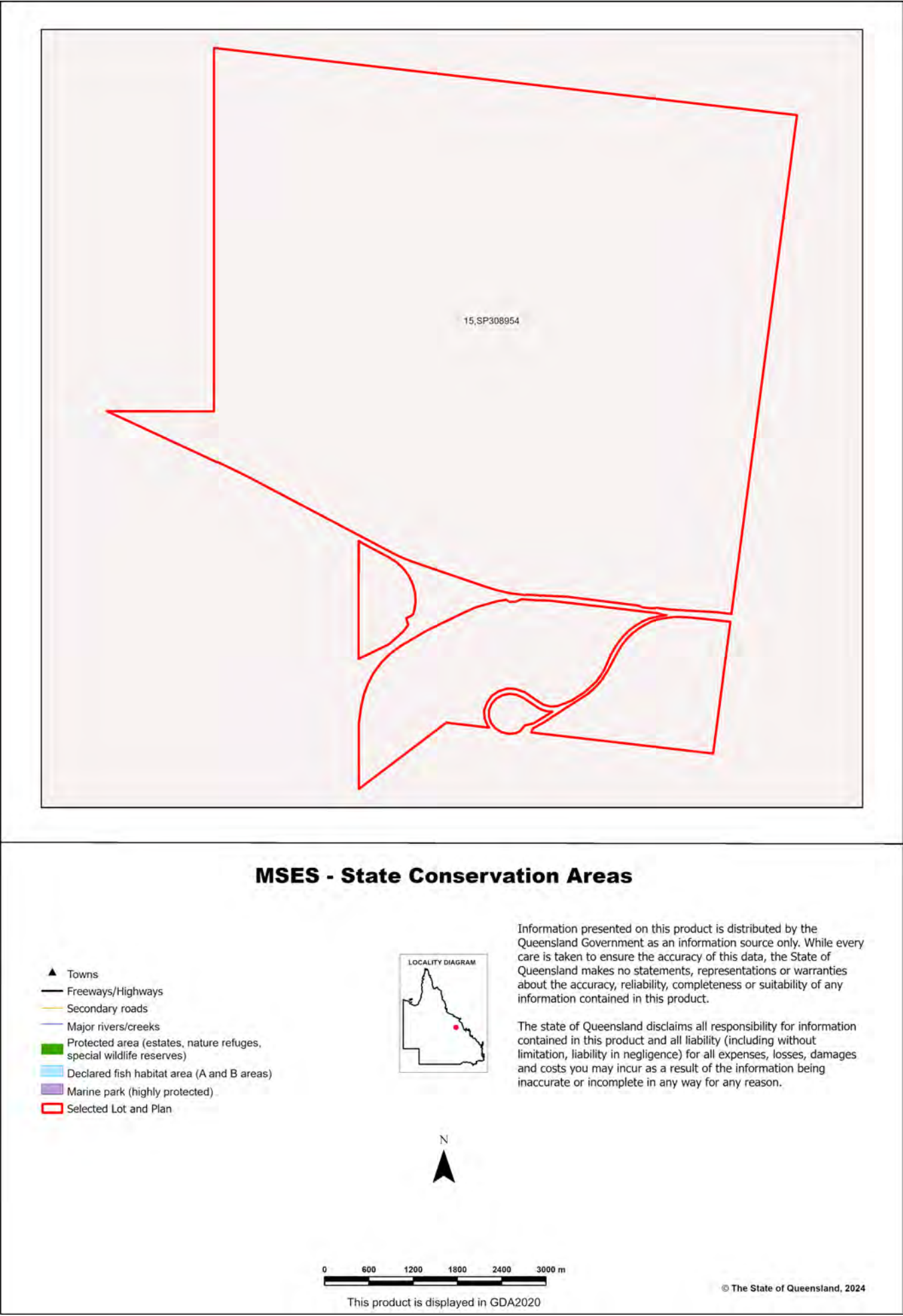
(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

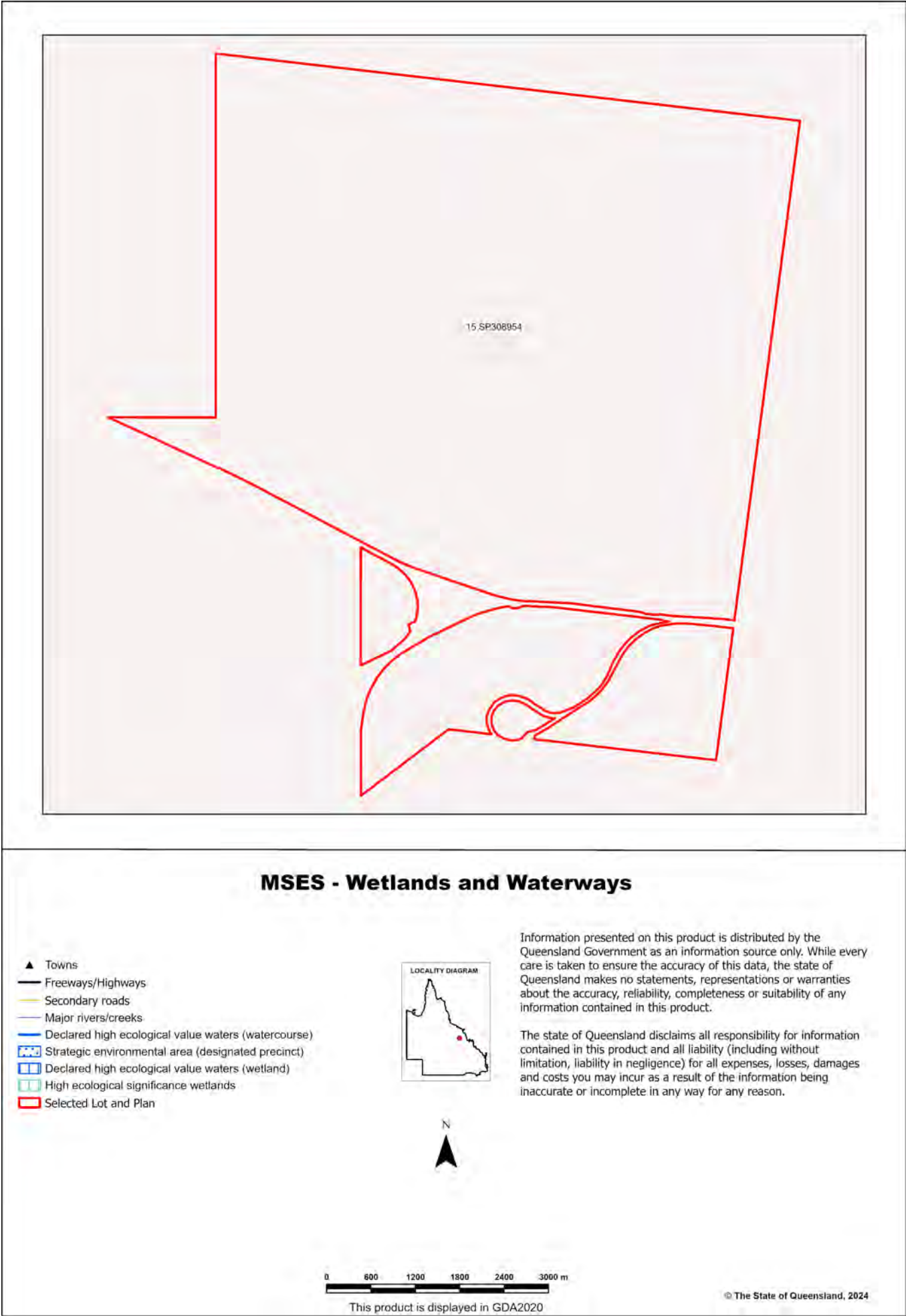
(No results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

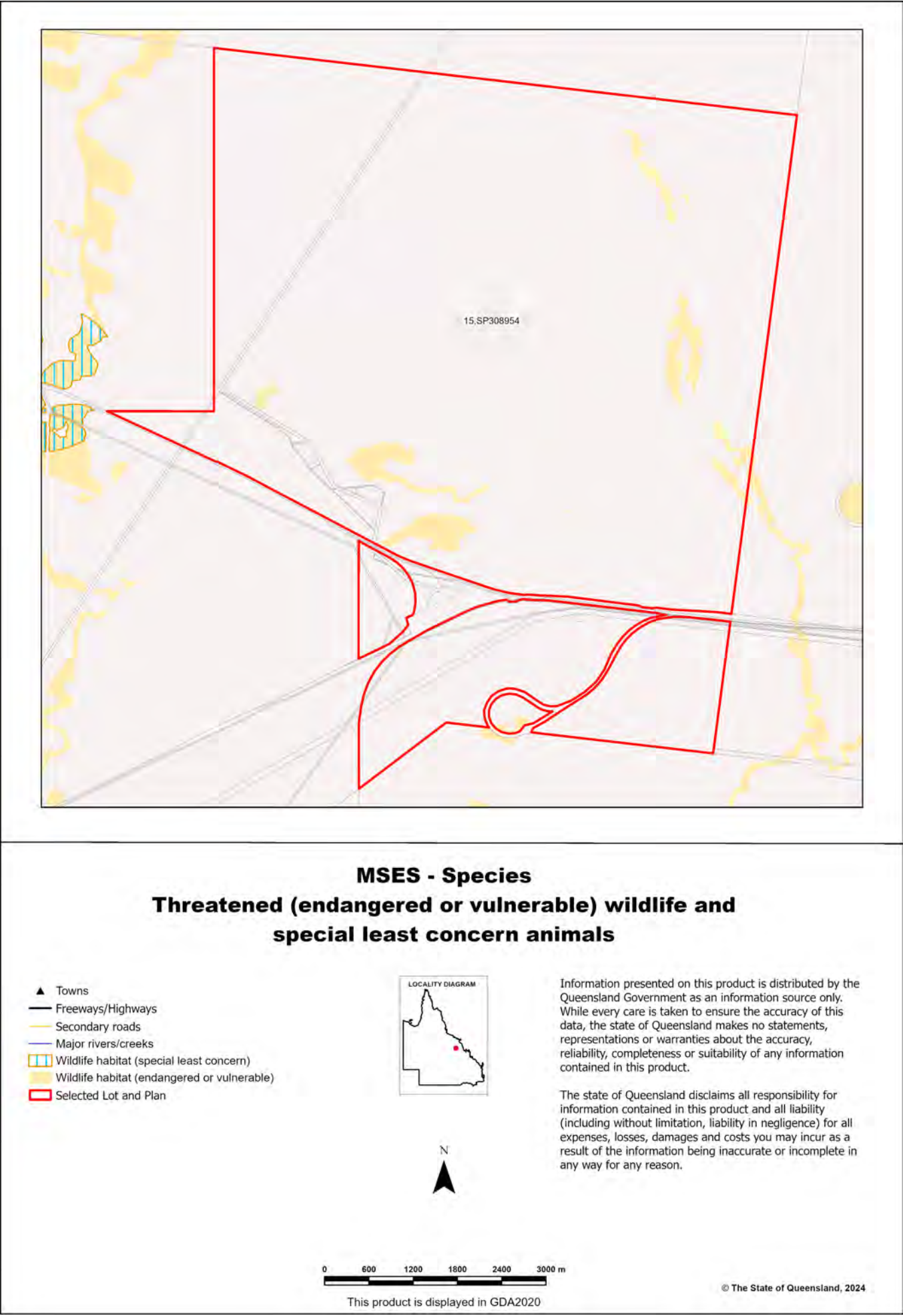
Map 1 - MSES - State Conservation Areas



Map 2 - MSES - Wetlands and Waterways



Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



Map 3b - MSES - Species - Koala habitat area (SEQ)



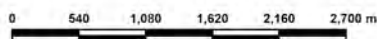
MSES - Species Koala habitat area (SEQ)

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Selected Lot and Plan



The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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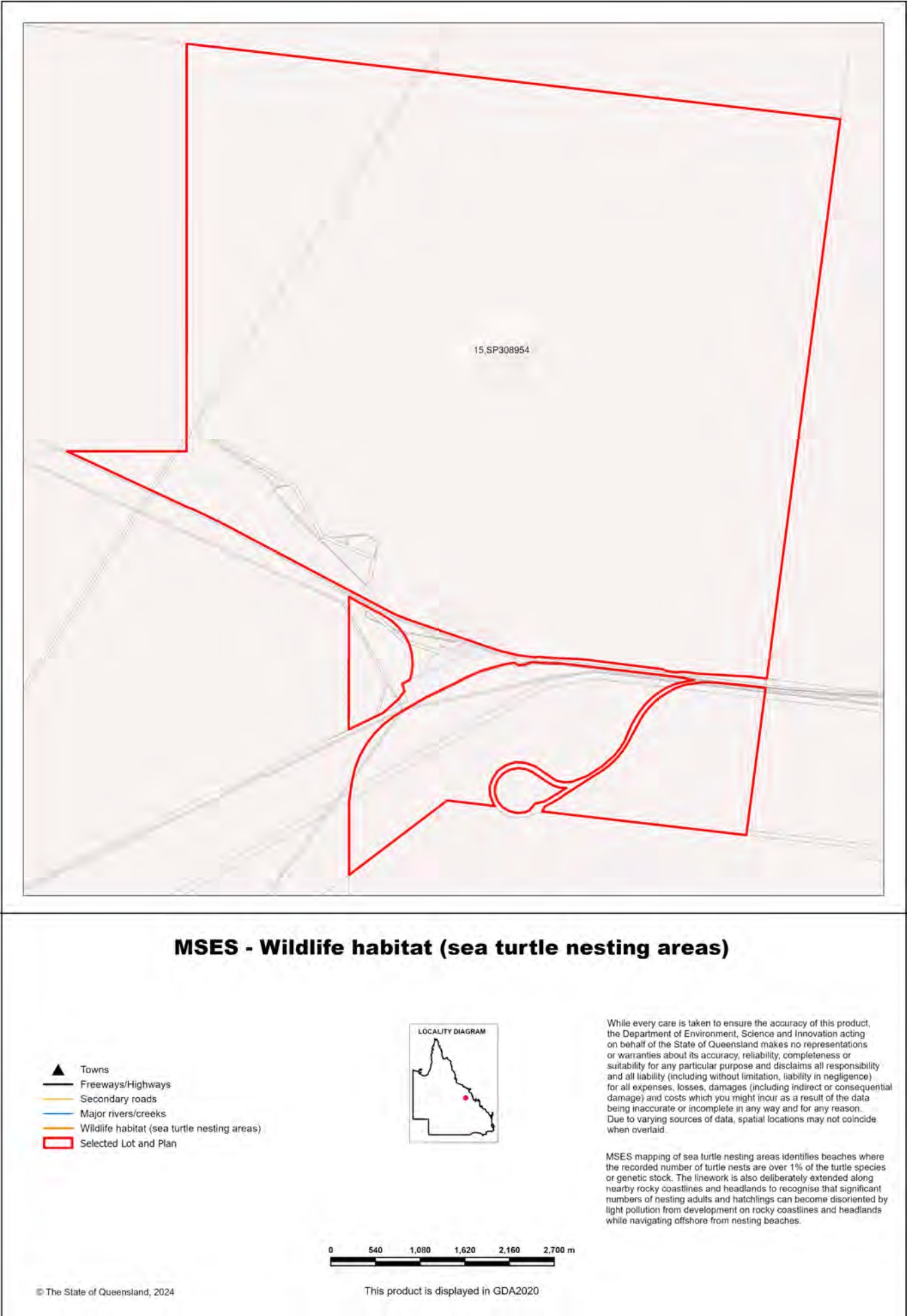


This product is displayed in GDA2020

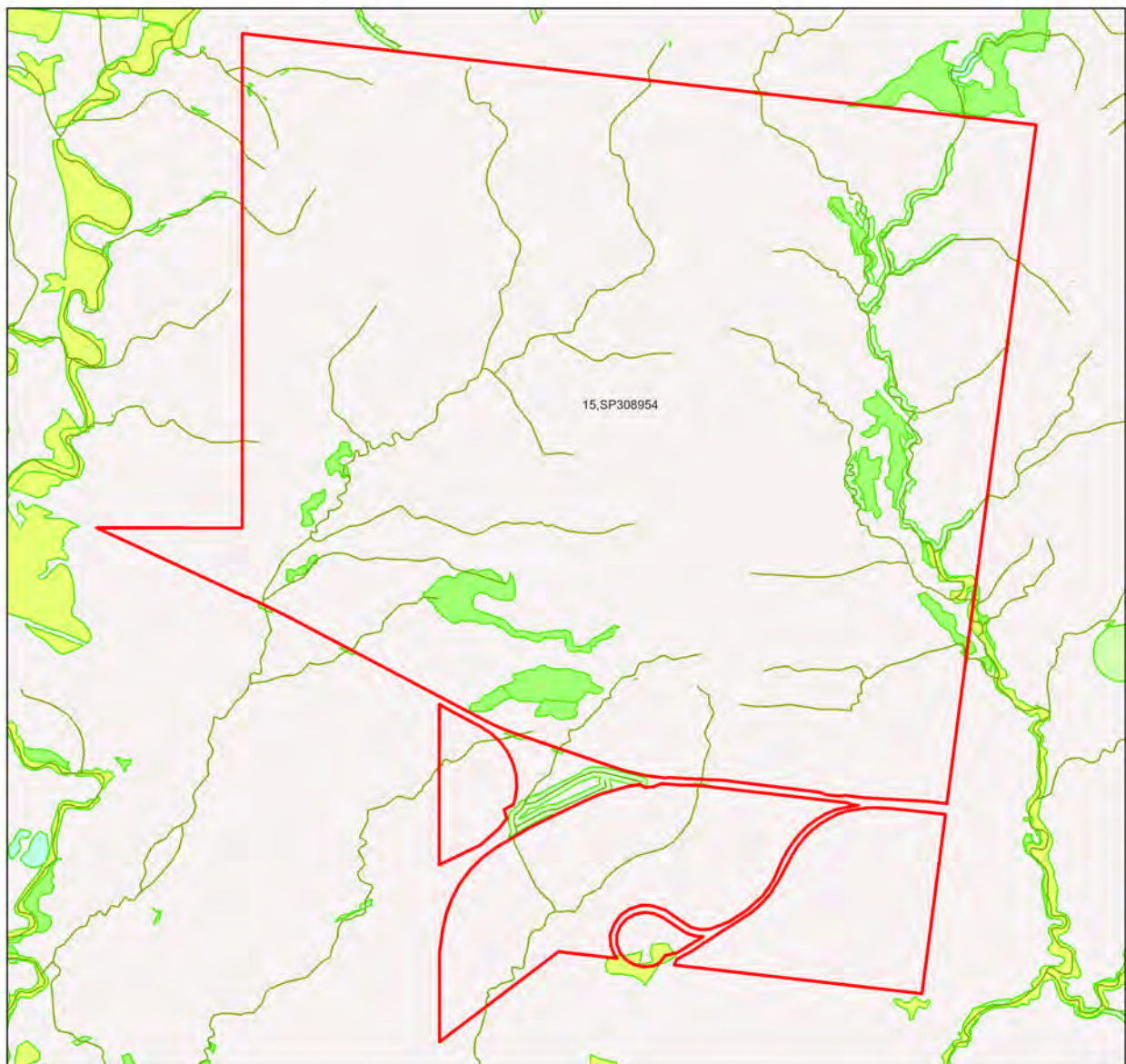
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The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area-locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with-koalas/mapping>

Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



MSES - Regulated Vegetation

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Regulated vegetation (intersecting a watercourse)
- Regulated vegetation (100m from wetland)
- Regulated vegetation (category B - endangered or of concern)
- Regulated vegetation (category C - endangered or of concern)
- Regulated vegetation (category R - GBR riverine)
- Regulated vegetation (essential habitat)
- Selected Lot and Plan

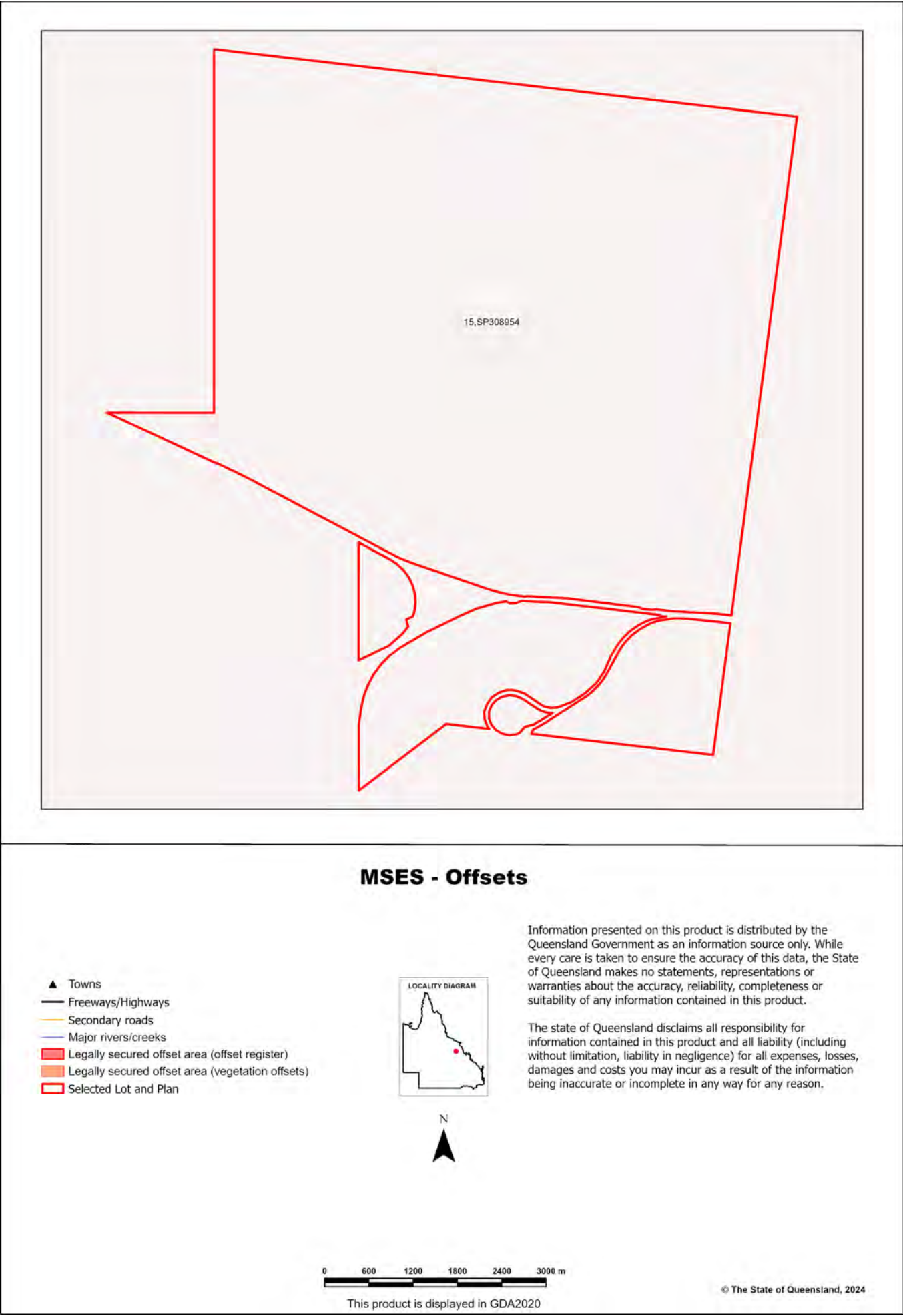


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Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 15 Plan: SP308954

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 2020). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 15 Plan: SP308954, with area 5405.54 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	65.27	1.21
Of concern	81.06	1.50
No concern at present	1,208.34	22.35
Total remnant vegetation	1,354.68	25.06

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

*****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.*

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
11.3.2	Eucalyptus populnea woodland on alluvial plains	Of concern	36.74	0.68
11.3.21	Dichanthium sericeum and/or Astrebla spp. grassland on alluvial plains. Cracking clay soils	Endangered	28.08	0.52
11.3.25	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Of concern	9.98	0.18
11.3.7	Corymbia spp. open woodland on alluvial plains	Of concern	17.15	0.32
11.4.8	Eucalyptus cambageana woodland to open forest with Acacia harpophylla or A. argyrodendron on Cainozoic clay plains	Endangered	18.72	0.35
11.5.12	Corymbia clarksoniana woodland and other Corymbia spp. and Eucalyptus spp. on Cainozoic sand plains and/or remnant surfaces	No concern at present	5.22	0.10
11.5.3	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	38.61	0.71
11.5.9c	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	795.30	14.71
11.7.1	Acacia harpophylla and/or Casuarina cristata and Eucalyptus thozetiana or E. microcarpa woodland on lower scarp slopes on Cainozoic lateritic duricrust	Of concern	12.23	0.23
11.7.2	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	No concern at present	297.39	5.50
11.7.3	Eucalyptus persistens, Triodia mitchellii open woodland on stripped margins of Cainozoic lateritic duricrust	No concern at present	39.81	0.74
11.7.5	Shrubland on natural scalds on deeply weathered coarse-grained sedimentary rocks	No concern at present	27.30	0.50
11.9.3	Dichanthium spp., Astrebla spp. grassland on fine-grained sedimentary rocks	No concern at present	4.72	0.09
11.9.5	Acacia harpophylla and/or Casuarina cristata open forest to woodland on fine-grained sedimentary rocks	Endangered	18.47	0.34
11.9.7a	Eucalyptus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Of concern	4.96	0.09
non-remnant	None	None	4,050.86	74.94

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.3.2	Pre-clearing 1905000 ha; Remnant 2021 499000 ha	17a	Contains Palustrine	Low
11.3.21	Pre-clearing 453000 ha; Remnant 2021 58000 ha	30a	Not a Wetland	Low
11.3.25	Pre-clearing 813000 ha; Remnant 2021 531000 ha	16a	Riverine	Low
11.3.7	Pre-clearing 141000 ha; Remnant 2021 61000 ha	9e	Not a Wetland	Low
11.4.8	Pre-clearing 728000 ha; Remnant 2021 67000 ha	25a	Contains Palustrine	Low
11.5.12	Pre-clearing 66000 ha; Remnant 2021 54000 ha	9e	Not a Wetland	Low
11.5.3	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low
11.5.9c	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
11.7.1	Pre-clearing 196000 ha; Remnant 2021 76000 ha	25a	Not a Wetland	Low
11.7.2	Pre-clearing 549000 ha; Remnant 2021 358000 ha	24a	Not a Wetland	Low
11.7.3	Pre-clearing 105000 ha; Remnant 2021 92000 ha	19d	Not a Wetland	Low
11.7.5	Pre-clearing 74000 ha; Remnant 2021 63000 ha	29b	Not a Wetland	Medium
11.9.3	Pre-clearing 269000 ha; Remnant 2021 152000 ha	30b	Not a Wetland	Low
11.9.5	Pre-clearing 2276000 ha; Remnant 2021 161000 ha	25a	Not a Wetland	Low

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.9.7a	Pre-clearing 506000 ha; Remnant 2021 103000 ha	17a	Not a Wetland	Low
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
11.3.2	11.3.2: Habitat for threatened flora species <i>Homopholis belsonii</i> . This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.3.21	11.3.21: Habitat for threatened flora species including <i>Thesium australe</i> , <i>Picris evae</i> , <i>Dichanthium queenslandicum</i> and the near threatened flora species <i>Digitaria porrecta</i> and fauna species including grassland earless dragon <i>Tympanocryptis pinguicolla</i> , five-clawed worm skink <i>Anomalopus mackayi</i> and grey snake <i>Hemiaspis damelii</i> .
11.3.25	11.3.25: Shown to be associated with a high fauna species richness in the Taroom area (Venz et al. 2002). Within parts of the Fitzroy catchment, this RE is known habitat for the threatened freshwater turtle <i>Rheodytes leukops</i> . Known to be important habitat for other riparian freshwater turtle species. This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.3.7	11.3.7: Habitat of the endangered northern hairy-nosed wombat, <i>Lasiorninus krefftii</i> .
11.4.8	11.4.8a: Larger gilgai provides ephemeral wetland habitat.
11.5.12	None
11.5.3	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.9c	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elaeagnifolium</i> .
11.7.1	11.7.1: Habitat for threatened plant species including <i>Cadellia pentastylis</i> .
11.7.2	11.7.2: Habitat for threatened plant species including <i>Acacia wardellii</i> .
11.7.3	11.7.3: Potential habitat for NCA listed species: <i>Marsdenia pumila</i> .

Regional Ecosystem	Special Values
11.7.5	11.7.5: Habitat of threatened plant species including <i>Eucalyptus broviniensis</i> , <i>Micromyrtus carinata</i> , <i>Micromyrtus patula</i> , <i>Acacia curranii</i> , <i>Calytrix gurlmundensis</i> and <i>Homoranthus decumbens</i> .
11.9.3	11.9.3: Potential habitat for NCA listed species: <i>Cymbonotus maidenii</i> , <i>Swainsona murrayana</i> .
11.9.5	11.9.5: Habitat for threatened fauna species including <i>Jalmenus eubulus</i> , pale imperial hairstreak butterfly (Eastwood et al. 2008).
11.9.7a	None
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	4,050.86	74.94
16a	Open forest and woodlands dominated by <i>Eucalyptus camaldulensis</i> (river red gum) (or <i>E. tereticornis</i> (blue gum)) and/or <i>E. coolabah</i> (coolabah) (or <i>E. microtheca</i> (coolabah)) fringing drainage lines. Associated species may include <i>Melaleuca</i> spp., <i>Corymbia tessellaris</i> (carbeen), <i>Angophora</i> spp., <i>Casuarina cunninghamiana</i> (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	9.98	0.18
17a	Woodlands dominated by <i>Eucalyptus populnea</i> (poplar box) (or <i>E. brownii</i> (Reid River box)) on alluvium, sand plains and footslopes of hills and ranges.	80.30	1.49
18b	Woodlands dominated <i>Eucalyptus crebra</i> (sens. lat.) (narrow-leaved red ironbark) frequently with <i>Corymbia</i> spp. or <i>Callitris</i> spp. on flat to undulating plains.	795.30	14.71
19d	Low open woodlands dominated by <i>Eucalyptus persiciens</i> (or <i>E. normantonensis</i> (Normanton box), <i>E. tardecidens</i>) with <i>Triodia</i> spp. dominated ground layer, mainly on hills and ranges.	39.81	0.74

BVG (1 Million)	Description	Area (Ha)	% of AOI
24a	Low woodlands to tall shrublands dominated by <i>Acacia</i> spp. on residuals. Species include <i>A. shirleyi</i> (lancewood), <i>A. catenulata</i> (bendee), <i>A. microsperma</i> (bowyakka), <i>A. clivicola</i> , <i>A. sibirica</i> , <i>A. rhodoxylon</i> (rosewood) and <i>A. leptostachya</i> (Townsville wattle).	297.39	5.50
25a	Open forests to woodlands dominated by <i>Acacia harpophylla</i> (brigalow) sometimes with <i>Casuarina cristata</i> (belah) on heavy clay soils. Includes areas co-dominated with <i>A. cambagei</i> (gidgee) and/or emergent eucalypts.	49.42	0.91
29b	Open shrublands to open heaths on elevated rocky locations.	27.30	0.50
30a	Tussock grasslands dominated by <i>Astrebla</i> spp. (mitchell grass) or <i>Dichanthium</i> spp. (bluegrass) often with <i>Eulalia aurea</i> (silky browntop) on alluvia.	28.08	0.52
30b	Tussock grasslands dominated by <i>Astrebla</i> spp. (mitchell grass) or <i>Dichanthium</i> spp. (bluegrass) often with <i>Iseilema</i> spp. on undulating downs or clay plains.	4.72	0.09
9e	Open forests, woodlands and open woodlands dominated by <i>Corymbia clarksoniana</i> (grey bloodwood) (or <i>C. novoguineensis</i> or <i>C. intermedia</i> (pink bloodwood) or <i>C. polycarpa</i> (long-fruited bloodwood)) frequently with <i>Erythrophleum chlorostachys</i> (red ironwood) or <i>Eucalyptus platyphylla</i> (poplar gum) predominantly on coastal sandplains and alluvia.	22.38	0.41

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See: <http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of: https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community. <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

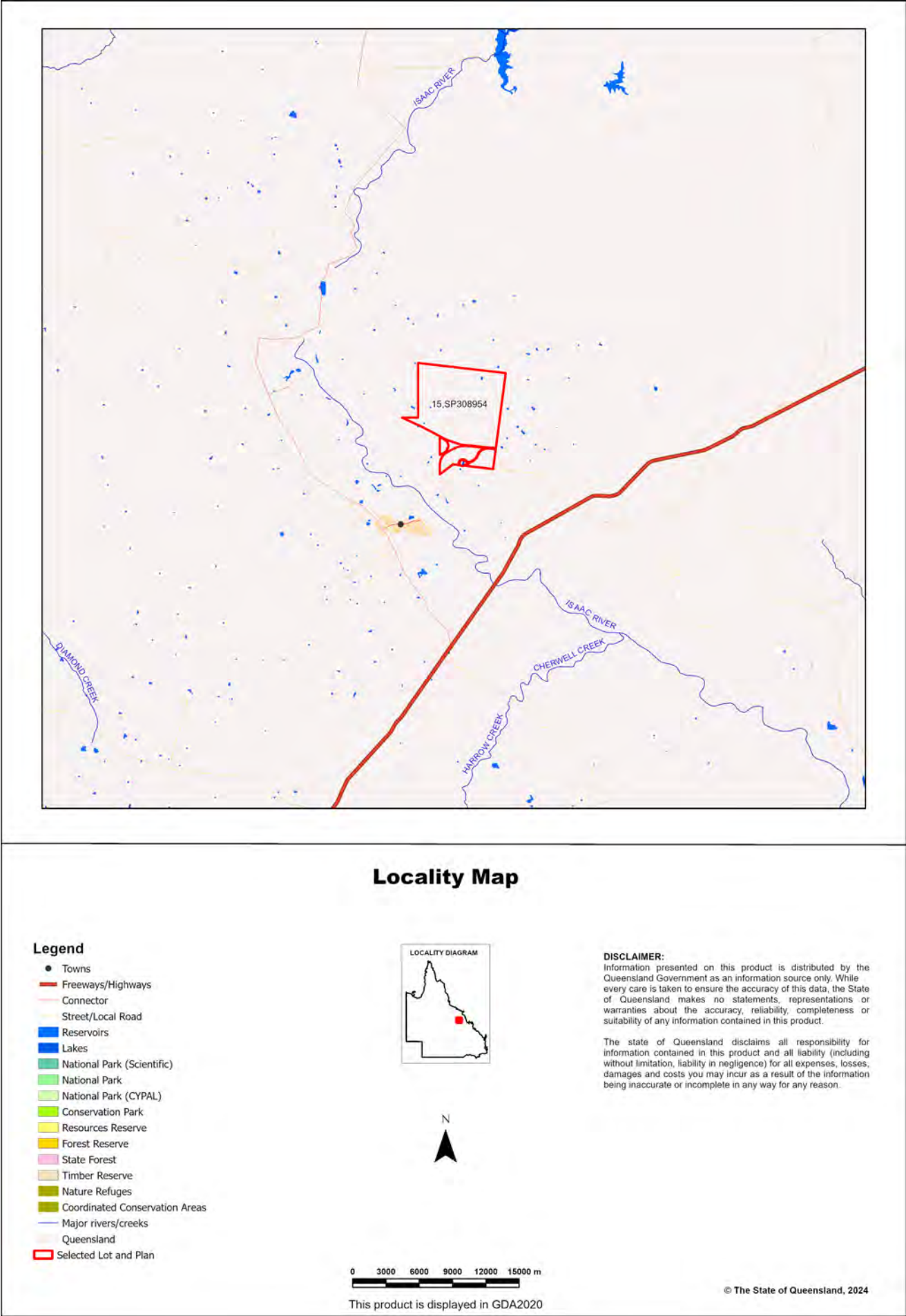
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

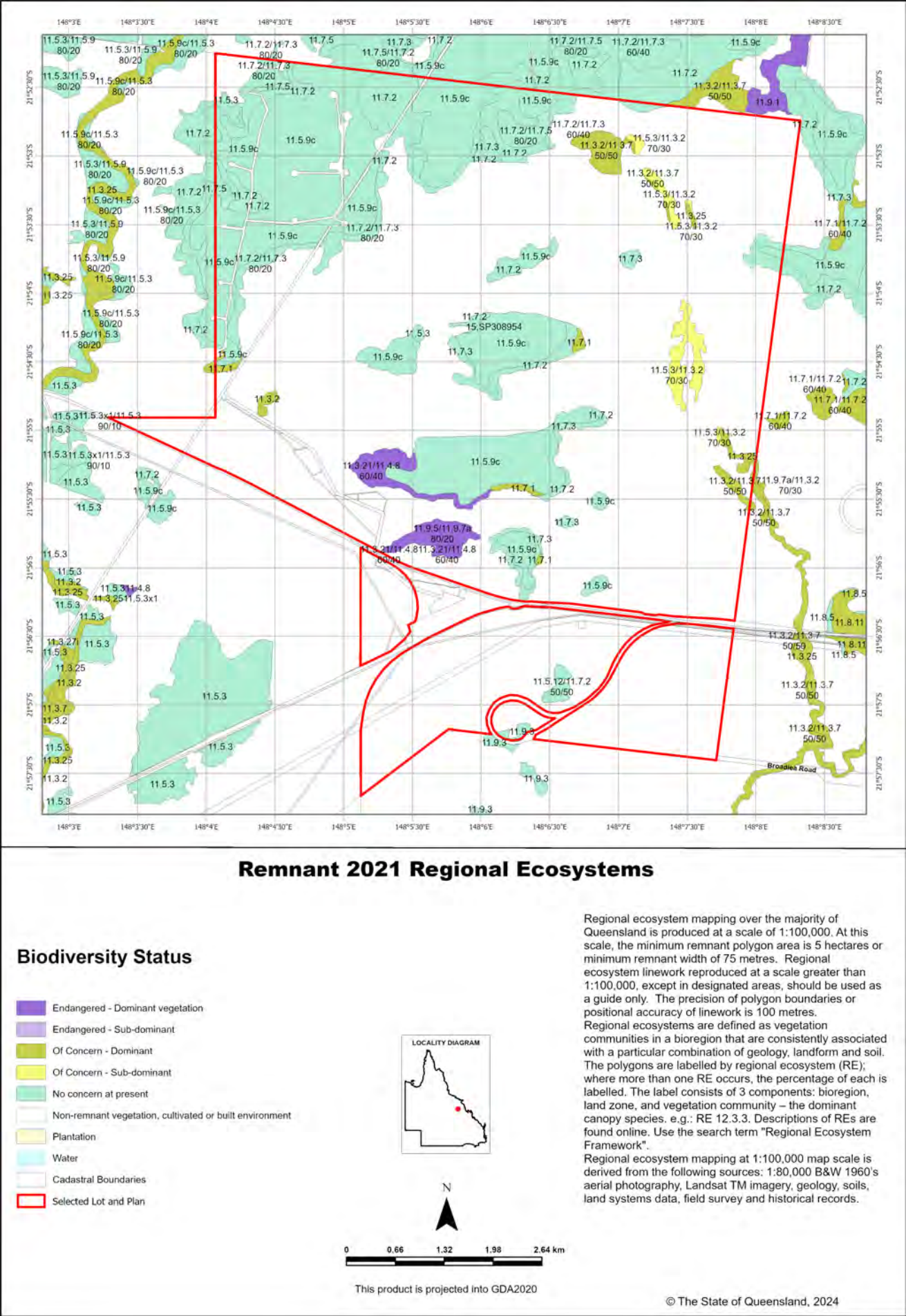
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
11.3.2	Available	Available
11.3.21	Not currently available	Available
11.3.25	Available	Available
11.3.7	Available	Available
11.4.8	Available	Available
11.5.12	Available	Available
11.5.3	Available	Available
11.5.9c	Available	Not currently available
11.7.1	Available	Available
11.7.2	Available	Available
11.7.3	Available	Available
11.7.5	Available	Available
11.9.3	Available	Available
11.9.5	Available	Available
11.9.7a	Available	Not currently available
non-remnant	Not currently available	Not currently available

Maps

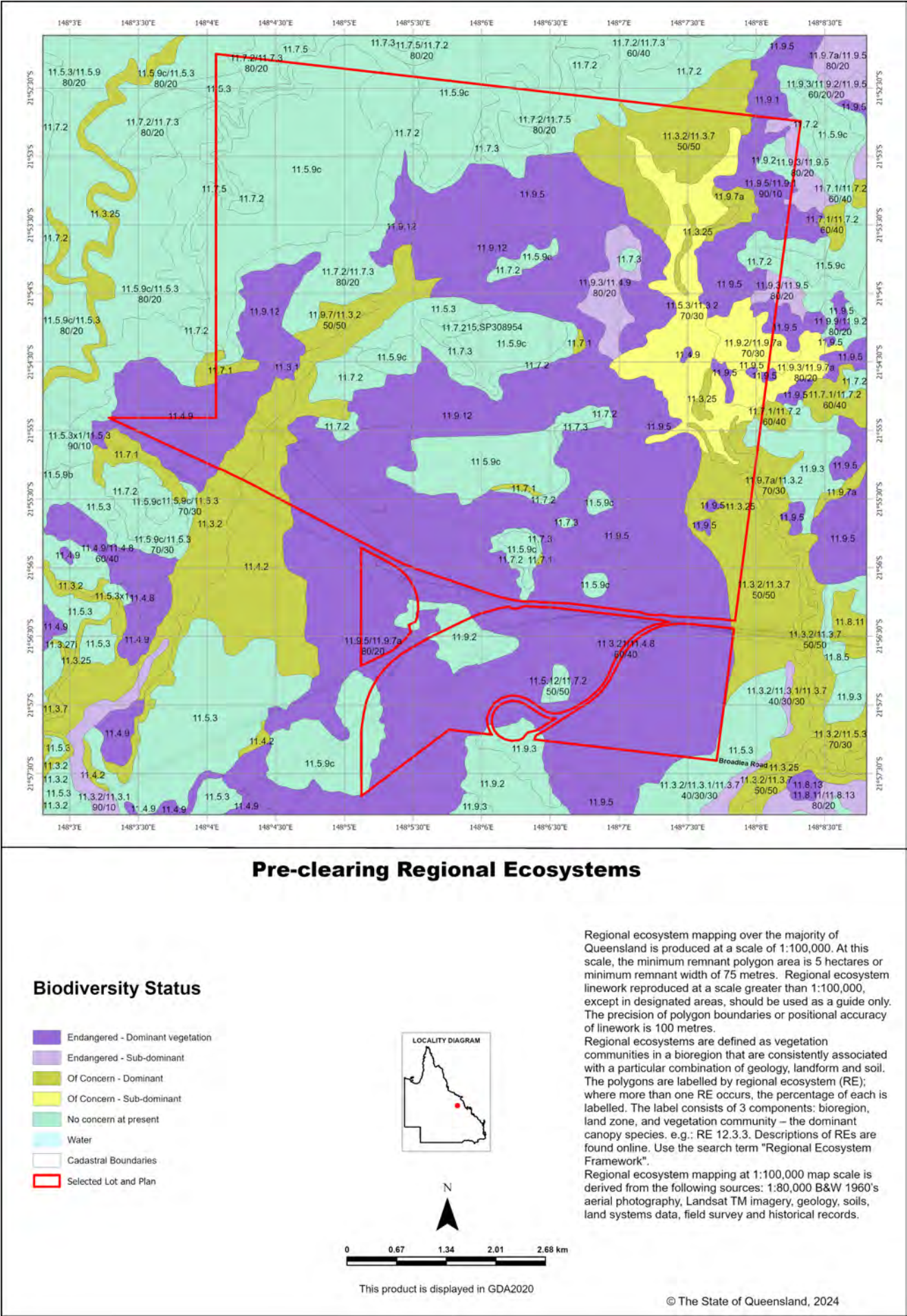
Map 1 - Location



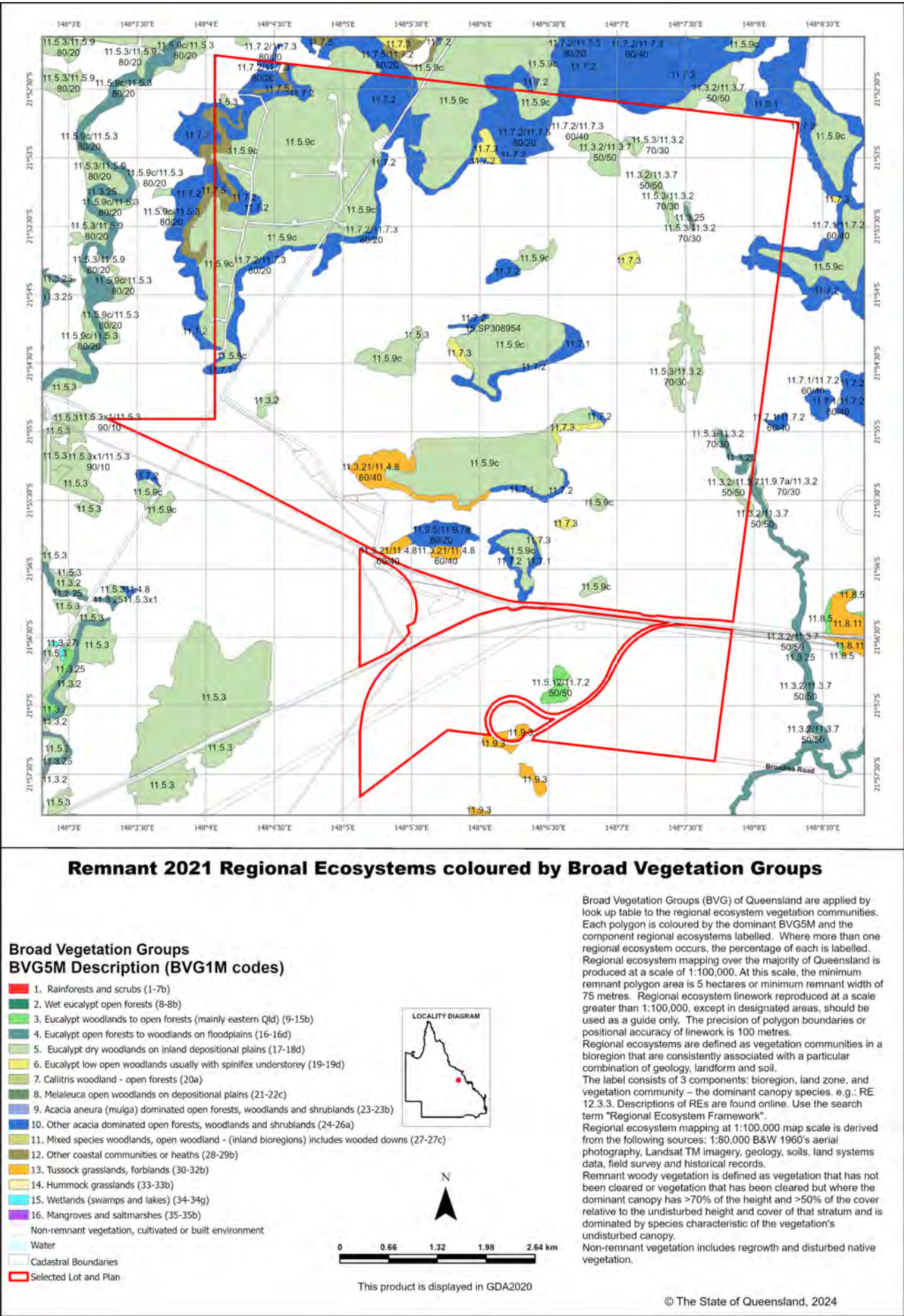
Map 2 - Remnant 2021 regional ecosystems



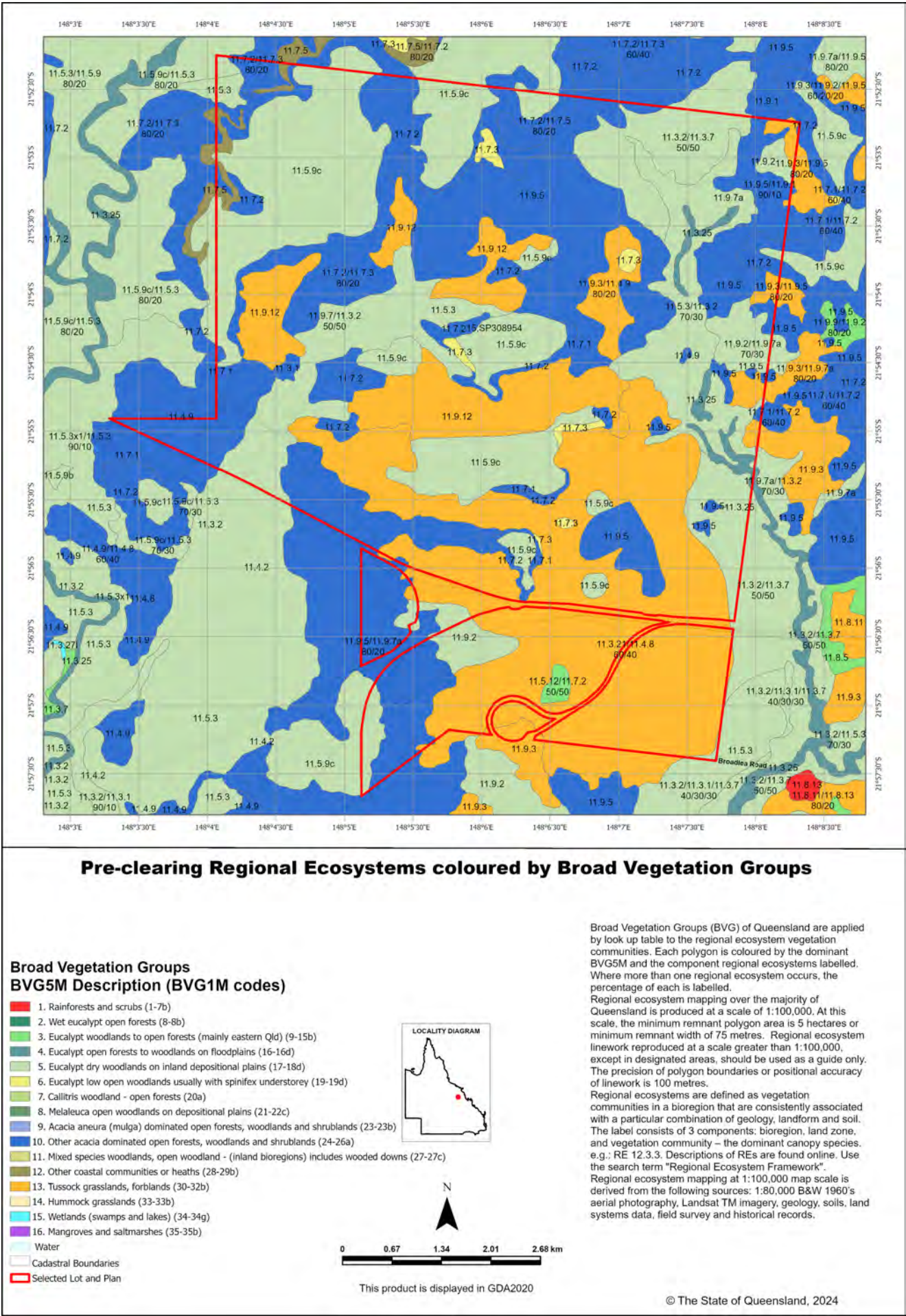
Map 3 - Pre-clearing regional ecosystems



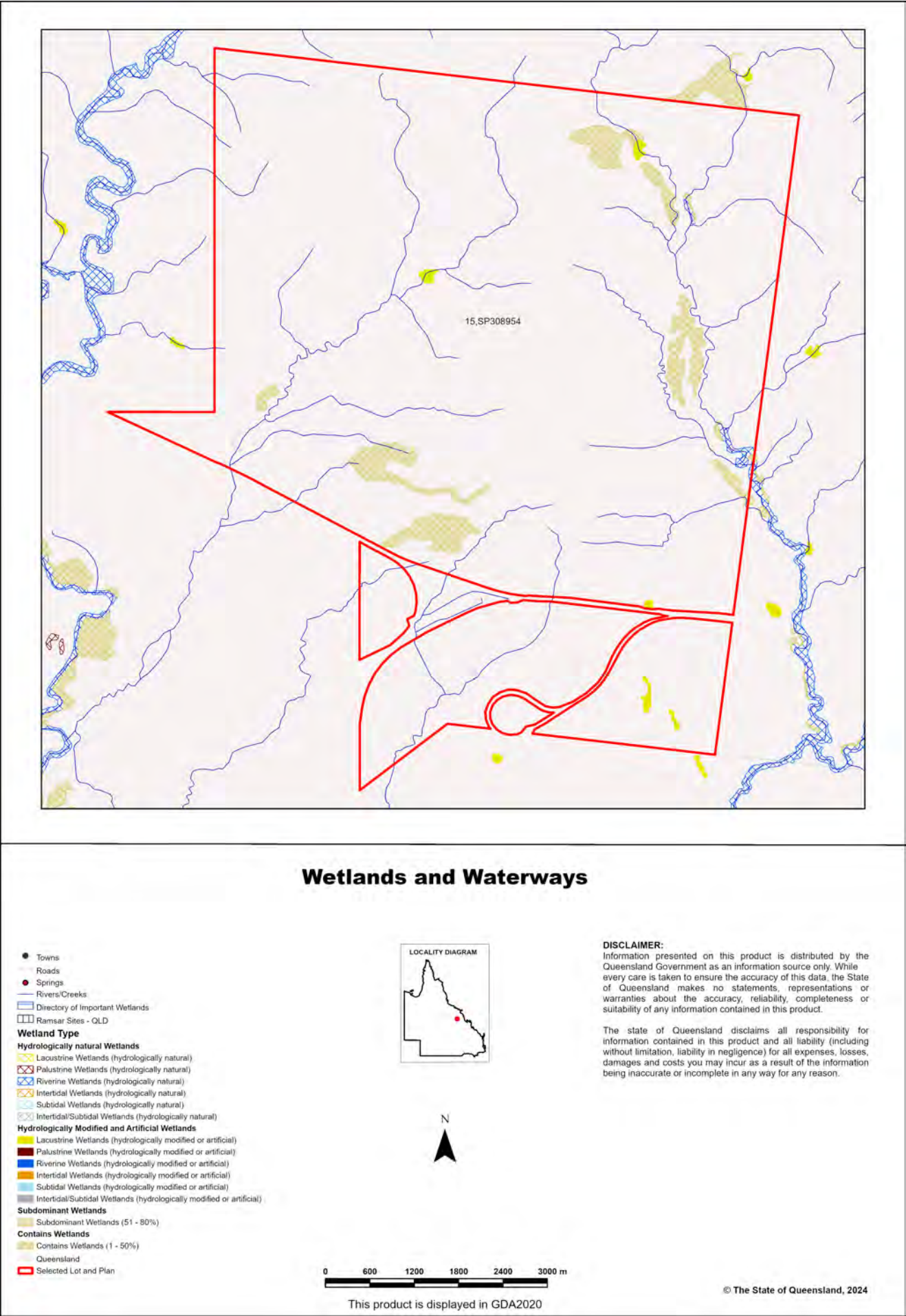
Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial-catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

<https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086>

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/information/spatial/catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 5405.54 Lot: 15 Plan: SP308954
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 15 Plan: SP308954

Table 1. Area of interest details

Size (ha)	
5,405.54	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

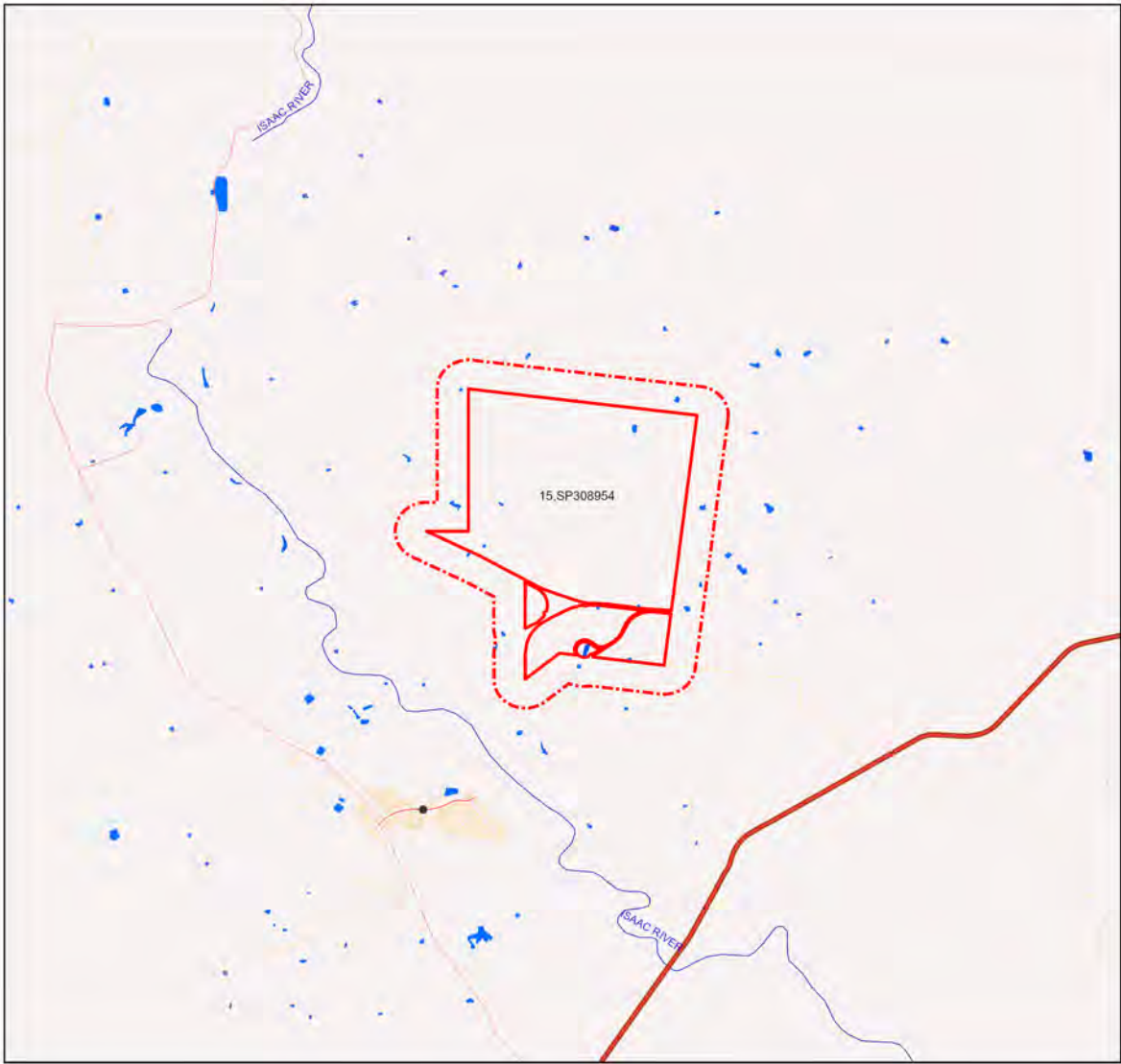
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - Selected Lot and Plan
 - 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1371	Aves	Acanthizidae	<i>Smicromis brevirostris</i>	weebill	C		0	2	5/24/2012
1732	Aves	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle	C		0	1	6/23/2023
1305	Aves	Acrocephalidae	<i>Acrocephalus australis</i>	Australian reed-warbler	C		0	1	5/24/2012
1652	Aves	Alaudidae	<i>Mirafrja javanica</i>	Horsfield's bushlark	C		0	1	6/23/2023
1999	Aves	Anatidae	<i>Aythya australis</i>	hardhead	C		0	1	5/24/2012
2005	Aves	Anatidae	<i>Cygnus atratus</i>	black swan	C		0	1	5/24/2012
1279	Aves	Anhingidae	<i>Anhinga novaehollandiae</i>	Australasian darter	C		0	1	5/24/2012
1829	Aves	Ardeidae	<i>Ardea alba modesta</i>	eastern great egret	C		0	1	5/24/2012
1832	Aves	Ardeidae	<i>Ardea pacifica</i>	white-necked heron	C		0	1	5/24/2012
1826	Aves	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron	C		0	1	5/24/2012
1654	Aves	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird	C		0	1	5/2/2012
1656	Aves	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird	C		0	1	5/2/2012
1644	Aves	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie	C		0	1	5/2/2012
1645	Aves	Artamidae	<i>Strepera graculina</i>	pied currawong	C		0	1	5/2/2012
1636	Aves	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	C		0	1	5/2/2012
1810	Aves	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove	C		0	1	5/2/2012
1785	Aves	Columbidae	<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	0	1	5/24/2012
1793	Aves	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon	C		0	1	6/23/2023
1609	Aves	Corvidae	<i>Corvus orru</i>	Torresian crow	C		0	3	5/24/2012
1342	Aves	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch	C		0	2	5/24/2012
1343	Aves	Estrildidae	<i>Taeniopygia guttata</i>	zebra finch	C		0	1	6/23/2023
1716	Aves	Falconidae	<i>Falco berigora</i>	brown falcon	C		0	1	6/23/2023
1291	Aves	Locustellidae	<i>Cincloramphus cruralis</i>	brown songlark	C		0	1	6/23/2023

1558	Aves	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren	C		0	1	6/23/2023
1496	Aves	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater	C		0	3	6/23/2023
1499	Aves	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner	C		0	1	5/2/2012
1493	Aves	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird	C		0	1	5/2/2012
1494	Aves	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird	C		0	1	5/2/2012
1455	Aves	Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian pipit	C		0	1	6/23/2023
1449	Aves	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush	C		0	1	5/24/2012
1392	Aves	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote	C		0	2	5/24/2012
1261	Aves	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant	C		0	1	5/24/2012
1263	Aves	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant	C		0	1	5/24/2012
1687	Aves	Phasianidae	<i>Synoicus ypsilophorus</i>	brown quail	C		0	1	6/23/2023
1318	Aves	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler	C		0	1	5/2/2012
1136	Aves	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella	C		0	1	5/2/2012
1686	Aves	Rallidae	<i>Fulica atra</i>	Eurasian coot	C		0	1	5/24/2012
1662	Aves	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen	C		0	1	5/24/2012
1575	Aves	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail	C		0	1	5/24/2012
1576	Aves	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail	C		0	1	5/2/2012
838	Mammalia	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna	SL		0	1	5/24/2012
948	Mammalia	Vespertilionidae	<i>Chalinolobus picatus</i>	little pied bat	C		0	2	5/24/2012
420	Reptilia	Gekkonidae	<i>Gehyra dubia</i>	dubious dtella	C		0	3	8/5/2020
34649	Reptilia	Scincidae	<i>Carlia rubigo</i>	orange-flanked rainbow skink	C		0	1	5/24/2012
240	Reptilia	Scincidae	<i>Ctenotus spaldingi</i>	straight-browed ctenotus	C		0	1	5/24/2012
138	Reptilia	Scincidae	<i>Morethia taeniopleura</i>	fire-tailed skink	C		0	1	5/24/2012

Table 3. Plants recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
8936	Equisetopsida	Apocynaceae	<i>Cerbera dumicola</i>		NT		0	2	7/24/2012
36665	Equisetopsida	Erpodiaceae	<i>Venturiella hodgkinsoniae</i>		C		1	1	11/20/2013
24693	Equisetopsida	Fabroniaceae	<i>Fabronia australis</i>		C		1	1	11/20/2013
10279	Equisetopsida	Leguminosae	<i>Desmodium macrocarpum</i>		C		1	2	3/11/2013
34710	Equisetopsida	Poaceae	<i>Calypochloa gracillima</i> subsp. <i>gracillima</i>		C		1	1	3/11/2013
24905	Equisetopsida	Ptychomitriaceae	<i>Ptychomitrium australe</i>		C		1	1	11/20/2013

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
23242	Lecanoromycetes	Lecideaceae	<i>Lecidea</i>				3	3	6/18/2007
24426	Lecanoromycetes	Parmeliaceae	<i>Xanthoparmelia ballingalliana</i>		C		2	2	6/15/2007
22988	Lecanoromycetes	Teloschistaceae	<i>Caloplaca cinnabarina</i>		C		1	1	6/15/2007
24295	Lichinomycetes	Peltulaceae	<i>Peltula placodizans</i>		C		1	1	6/15/2007

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

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Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 16 Plan: SP261431

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

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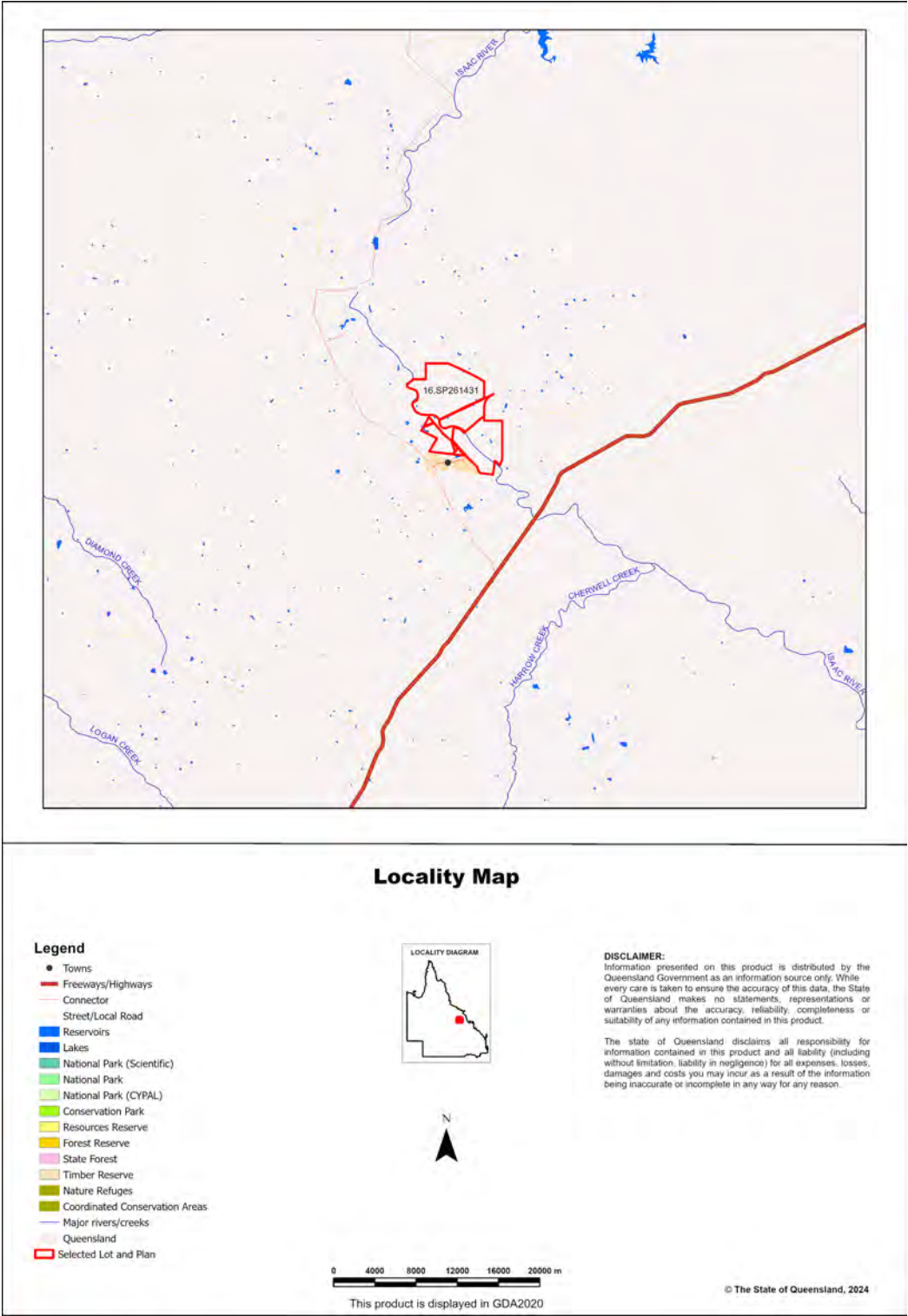
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 16 Plan: SP261431, with area 5295.2 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004* ;
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008*;
- *Threatened wildlife under the Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	877.58 ha	16.6%
7b Special least concern animals	49.85 ha	0.9%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	440.11 ha	8.3%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	1.23 ha	0.0%
8d Regulated Vegetation - Essential habitat	906.26 ha	17.1%
8e Regulated Vegetation - intersecting a watercourse	38.3 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	71.69 ha	1.4%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

7b. Special least concern animals

Values are present

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	Core
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	None
<i>Petauroides armillatus</i>	central greater glider	E	E	None

Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Tachyglossus aculeatus</i>	short-beaked echidna	None

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

**Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.1/11.3.2	E-dom	rem_end
11.3.2	O-dom	rem_oc
11.3.2/11.3.1	E-subdom	rem_end
11.3.2/11.3.4	O-dom	rem_oc
11.3.2/11.5.3	O-dom	rem_oc
11.3.4	O-dom	rem_oc
11.3.7/11.3.2	O-subdom	rem_oc
11.4.2	O-dom	rem_oc
11.4.8	E-dom	rem_end
11.4.9	E-dom	rem_end
11.4.9/11.5.3	E-dom	rem_end
11.5.3/11.3.2	O-subdom	rem_oc
11.9.7a	O-dom	rem_oc

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8554

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Regulated vegetation map category	Map number
B	8553
B	8554

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.**MSES - Offsets****9a. Legally secured offset areas - offset register areas**

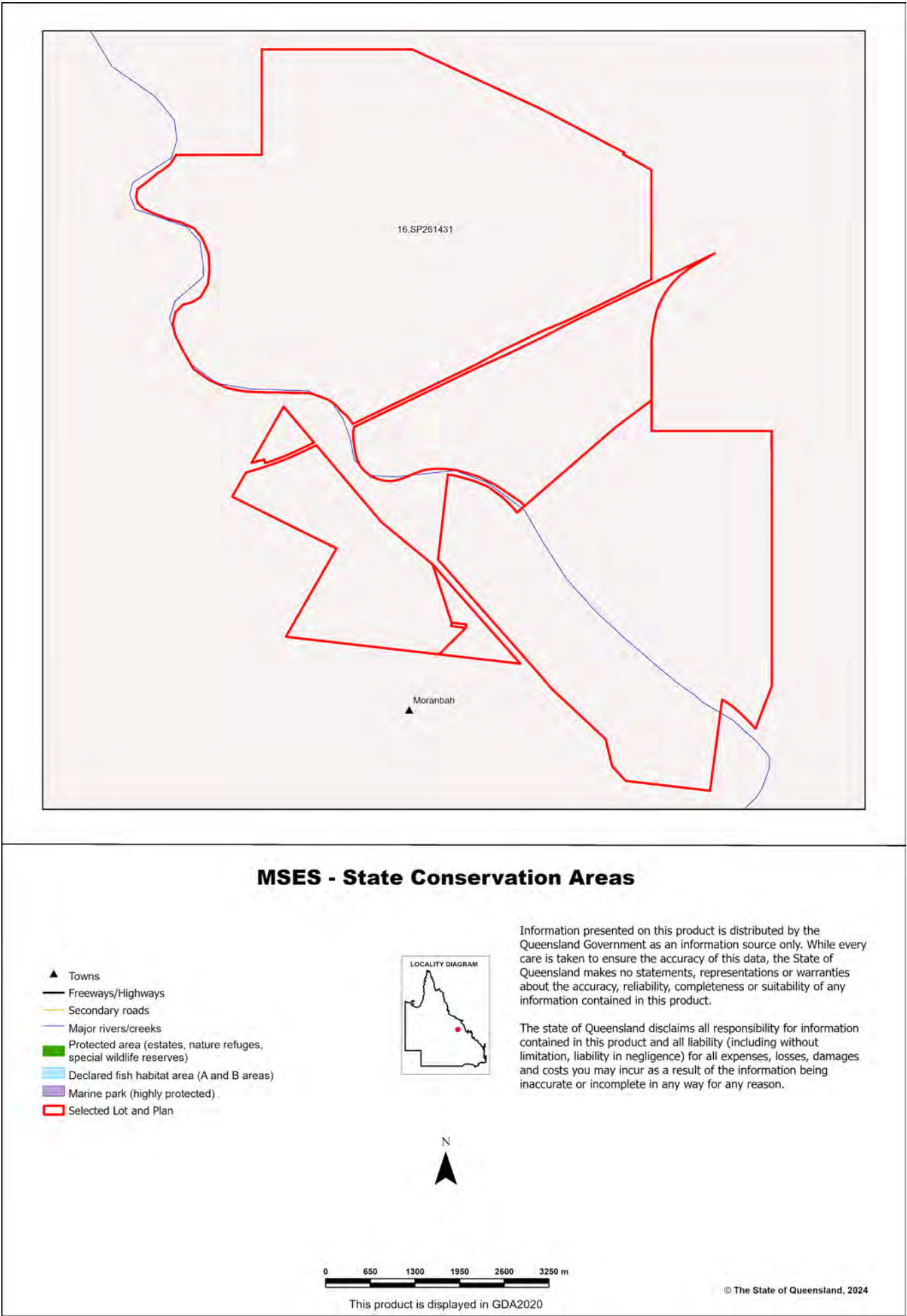
(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

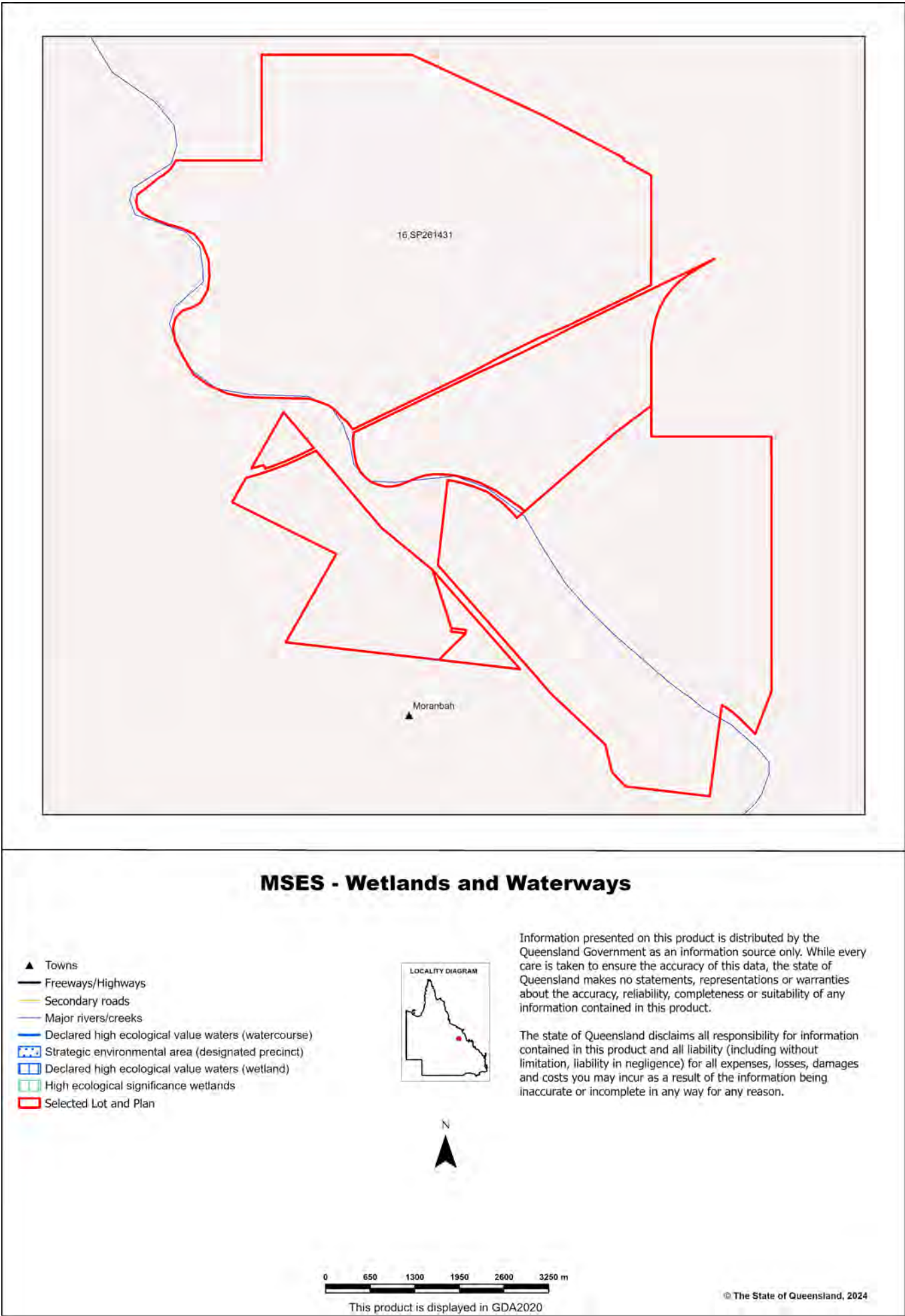
(No results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

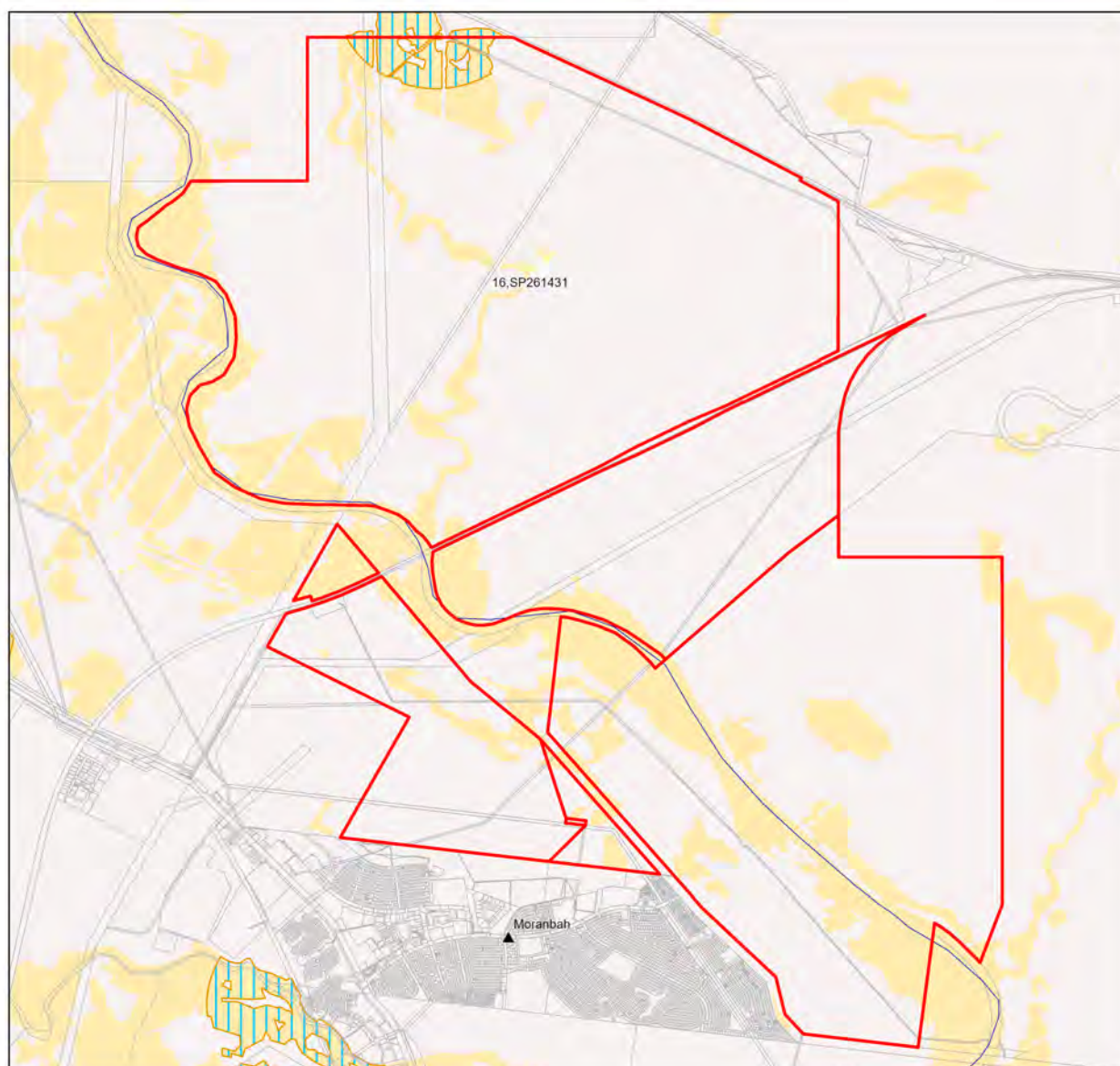
Map 1 - MSES - State Conservation Areas



Map 2 - MSES - Wetlands and Waterways



Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



MSES - Species

Threatened (endangered or vulnerable) wildlife and special least concern animals

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- ▨ Wildlife habitat (special least concern)
- Wildlife habitat (endangered or vulnerable)
- ▭ Selected Lot and Plan



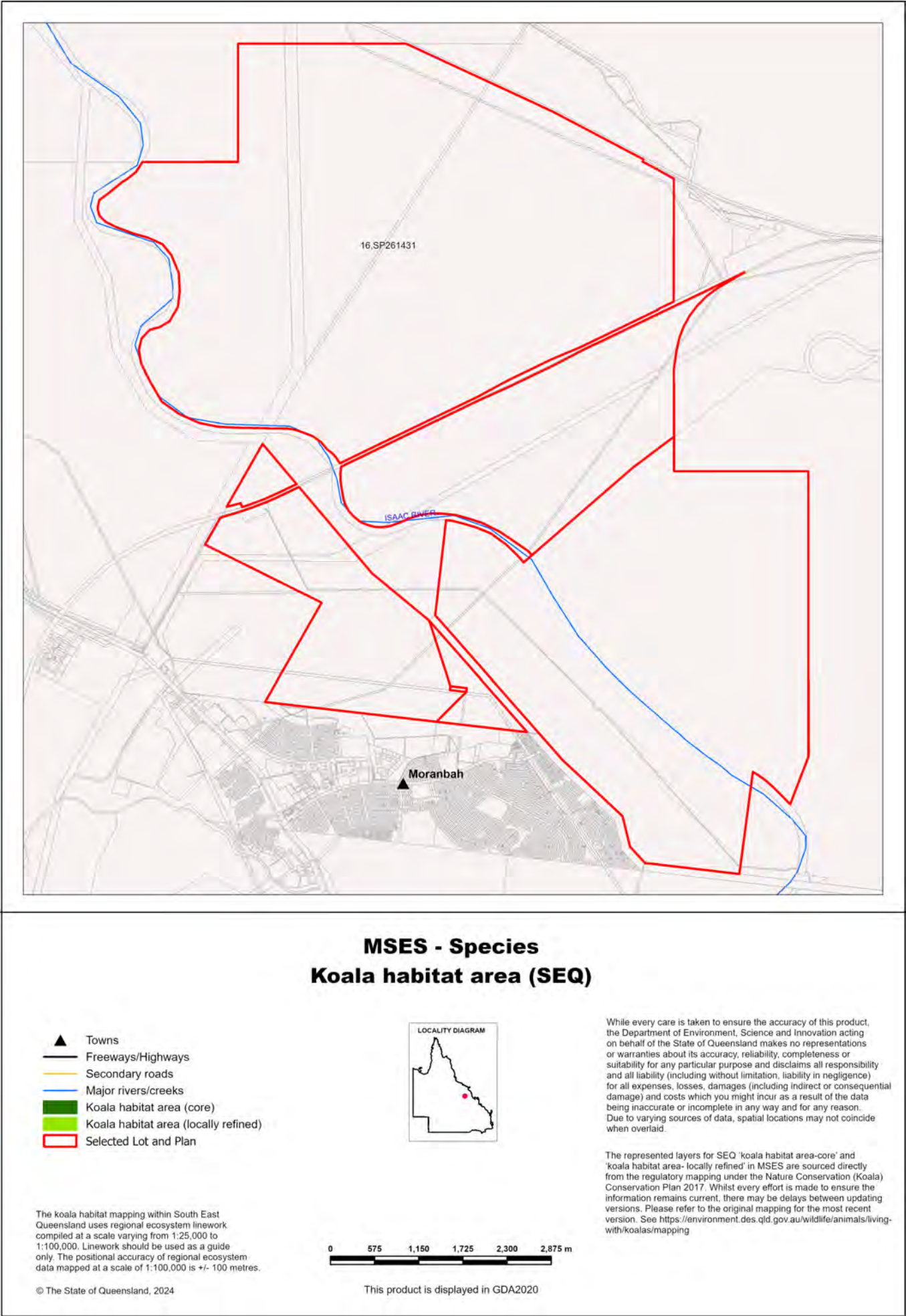
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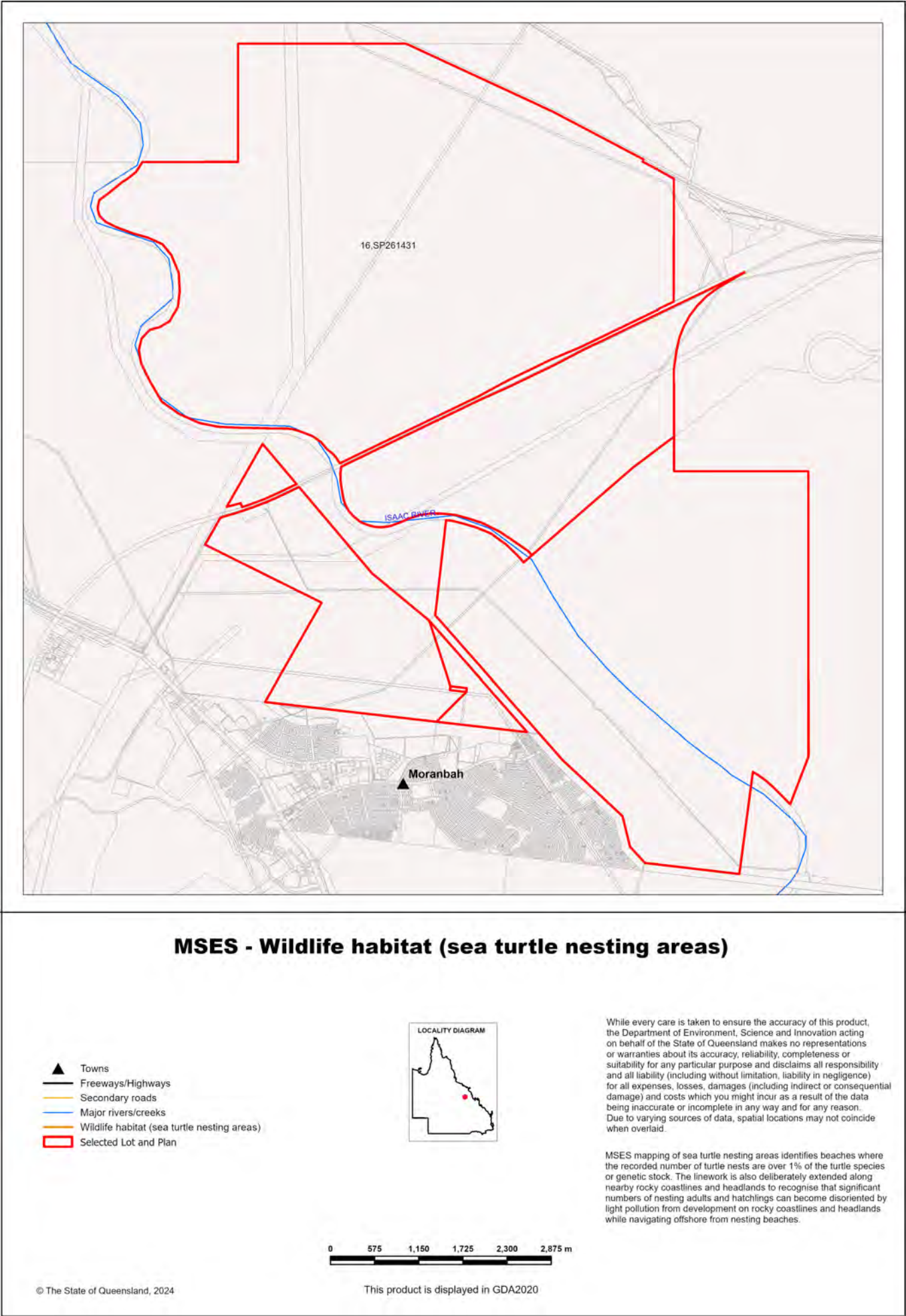
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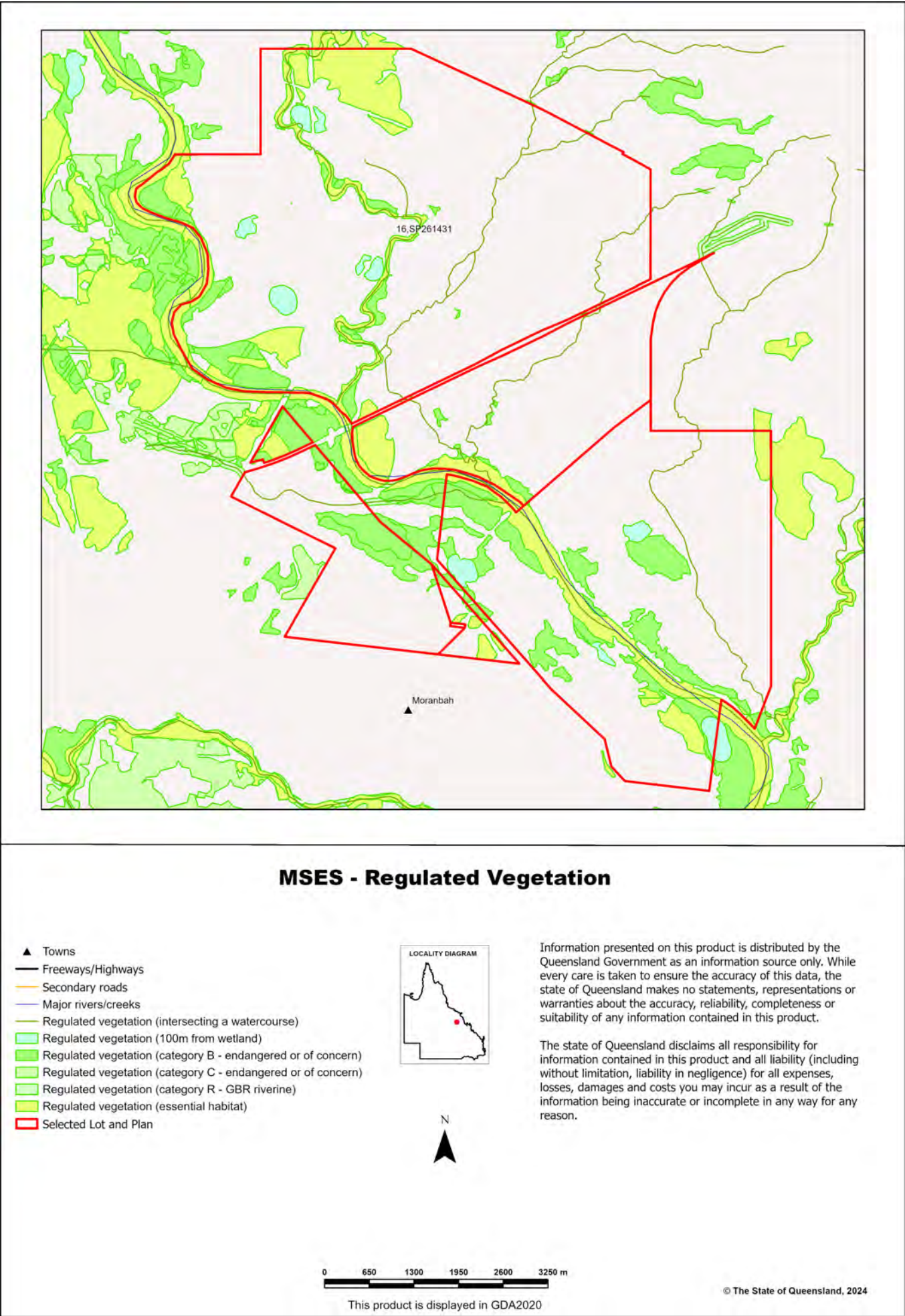
Map 3b - MSES - Species - Koala habitat area (SEQ)



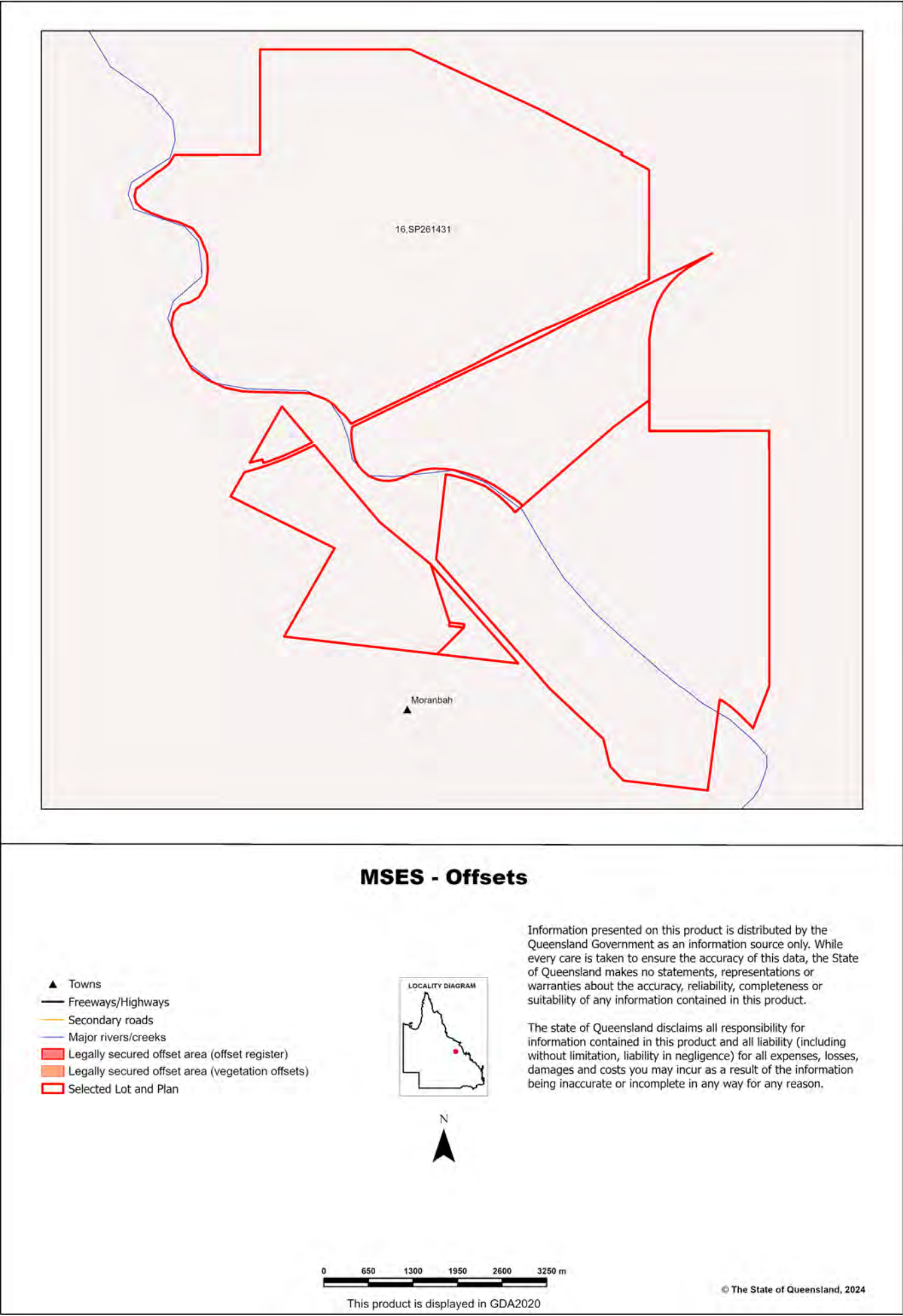
Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 16 Plan: SP261431

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

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The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 16 Plan: SP261431, with area 5295.2 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	4.52	0.09
Of concern	615.19	11.62
No concern at present	795.46	15.02
Total remnant vegetation	1,415.17	26.73

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
11.3.1	Acacia harpophylla and/or Casuarina cristata open forest on alluvial plains	Endangered	0.26	less than 0.01
11.3.2	Eucalyptus populnea woodland on alluvial plains	Of concern	205.58	3.88
11.3.25	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Of concern	243.93	4.61
11.3.27f	Freshwater wetlands	Of concern	7.64	0.14
11.3.27i	Freshwater wetlands	Of concern	3.19	0.06
11.3.4	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Of concern	22.84	0.43
11.3.7	Corymbia spp. open woodland on alluvial plains	Of concern	88.56	1.67
11.4.2	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Of concern	36.96	0.70
11.4.8	Eucalyptus cambageana woodland to open forest with Acacia harpophylla or A. argyrodendron on Cainozoic clay plains	Endangered	4.26	0.08
11.5.12	Corymbia clarksoniana woodland and other Corymbia spp. and Eucalyptus spp. on Cainozoic sand plains and/or remnant surfaces	No concern at present	24.61	0.46
11.5.3	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	701.84	13.25
11.5.3b	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	8.25	0.16
11.5.3x1	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	20.12	0.38

11.5.9b	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	4.11	0.08
11.5.9c	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	22.79	0.43
11.7.2	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	No concern at present	3.52	0.07
11.9.3	Dichanthium spp., Astrebla spp. grassland on fine-grained sedimentary rocks	No concern at present	10.23	0.19
11.9.7a	Eucalyptus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Of concern	6.50	0.12
non-remnant	None	None	3,880.02	73.27

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.3.1	Pre-clearing 785000 ha; Remnant 2021 80000 ha	25a	Not a Wetland	Low
11.3.2	Pre-clearing 1905000 ha; Remnant 2021 499000 ha	17a	Contains Palustrine	Low
11.3.25	Pre-clearing 813000 ha; Remnant 2021 531000 ha	16a	Riverine	Low
11.3.27f	Pre-clearing 63000 ha; Remnant 2021 43000 ha	34d	Palustrine	Low
11.3.27i	Pre-clearing 63000 ha; Remnant 2021 43000 ha	34d	Palustrine	Low
11.3.4	Pre-clearing 684000 ha; Remnant 2021 178000 ha	16c	Not a Wetland	Low
11.3.7	Pre-clearing 141000 ha; Remnant 2021 61000 ha	9e	Not a Wetland	Low
11.4.2	Pre-clearing 195000 ha; Remnant 2021 34000 ha	17a	Not a Wetland	Low

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.4.8	Pre-clearing 728000 ha; Remnant 2021 67000 ha	25a	Contains Palustrine	Low
11.5.12	Pre-clearing 66000 ha; Remnant 2021 54000 ha	9e	Not a Wetland	Low
11.5.3	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low
11.5.3b	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Palustrine	Low
11.5.3x1	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low
11.5.9b	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
11.5.9c	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
11.7.2	Pre-clearing 549000 ha; Remnant 2021 358000 ha	24a	Not a Wetland	Low
11.9.3	Pre-clearing 269000 ha; Remnant 2021 152000 ha	30b	Not a Wetland	Low
11.9.7a	Pre-clearing 506000 ha; Remnant 2021 103000 ha	17a	Not a Wetland	Low
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
11.3.1	11.3.1: Habitat for threatened fauna species including painted honeyeater, <i>Grantiella picta</i> particularly in subregion 35 (Oliver et al. 2003).
11.3.2	11.3.2: Habitat for threatened flora species <i>Homopholis belsonii</i> . This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).

Regional Ecosystem	Special Values
11.3.25	11.3.25: Shown to be associated with a high fauna species richness in the Taroom area (Venz et al. 2002). Within parts of the Fitzroy catchment, this RE is known habitat for the threatened freshwater turtle <i>Rheodytes leukops</i> . Known to be important habitat for other riparian freshwater turtle species. This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.3.27f	11.3.27: Habitat for a diverse range of fauna species (Venz et al. 2002) particularly birds. 11.3.27a: Provides wetland habitat for a flora and fauna.
11.3.27i	11.3.27: Habitat for a diverse range of fauna species (Venz et al. 2002) particularly birds. 11.3.27a: Provides wetland habitat for a flora and fauna.
11.3.4	11.3.4: Potential habitat for NCA listed species: <i>Acacia pedleyi</i> , <i>Callicarpa thozetii</i> , <i>Cycas megacarpa</i> , <i>Cycas ophiolitica</i> , <i>Digitaria porrecta</i> , <i>Eriocaulon carsonii</i> subsp. <i>orientale</i> , <i>Livistona nitida</i> , <i>Rhaponticum australe</i> , <i>Samadera bidwillii</i> , <i>Sannantha brachypoda</i> . This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.3.7	11.3.7: Habitat of the endangered northern hairy-nosed wombat, <i>Lasiorhinus krefftii</i> .
11.4.2	11.4.2: Potential habitat for NCA listed species: <i>Solanum adenophorum</i> .
11.4.8	11.4.8a: Larger gilgai provides ephemeral wetland habitat.
11.5.12	None
11.5.3	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.3b	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.3x1	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.9b	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elachophyllum</i> .
11.5.9c	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elachophyllum</i> .
11.7.2	11.7.2: Habitat for threatened plant species including <i>Acacia wardellii</i> .
11.9.3	11.9.3: Potential habitat for NCA listed species: <i>Cymbonotus maidenii</i> , <i>Swainsona murrayana</i> .
11.9.7a	None
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	3,880.02	73.27
16a	Open forest and woodlands dominated by <i>Eucalyptus camaldulensis</i> (river red gum) (or <i>E. tereticornis</i> (blue gum)) and/or <i>E. coolabah</i> (coolabah) (or <i>E. microtheca</i> (coolabah)) fringing drainage lines. Associated species may include <i>Melaleuca</i> spp., <i>Corymbia tessellaris</i> (carbeen), <i>Angophora</i> spp., <i>Casuarina cunninghamiana</i> (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	243.93	4.61
16c	Woodlands and open woodlands dominated by <i>Eucalyptus coolabah</i> (coolabah) or <i>E. microtheca</i> (coolabah) or <i>E. largiflorens</i> (black box) or <i>E. tereticornis</i> (blue gum) or <i>E. chlorophylla</i> on floodplains. Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	22.84	0.43
17a	Woodlands dominated by <i>Eucalyptus populnea</i> (poplar box) (or <i>E. brownii</i> (Reid River box)) on alluvium, sand plains and footslopes of hills and ranges.	979.24	18.49
18b	Woodlands dominated <i>Eucalyptus crebra</i> (sens. lat.) (narrow-leaved red ironbark) frequently with <i>Corymbia</i> spp. or <i>Callitris</i> spp. on flat to undulating plains.	26.91	0.51
24a	Low woodlands to tall shrublands dominated by <i>Acacia</i> spp. on residuals. Species include <i>A. shirleyi</i> (lancewood), <i>A. catenulata</i> (bendee), <i>A. microsperma</i> (bowyakka), <i>A. clivicola</i> , <i>A. sibirica</i> , <i>A. rhodoxylon</i> (rosewood) and <i>A. leptostachya</i> (Townsville wattle).	3.52	0.07
25a	Open forests to woodlands dominated by <i>Acacia harpophylla</i> (brigalow) sometimes with <i>Casuarina cristata</i> (belah) on heavy clay soils. Includes areas co-dominated with <i>A. cambagei</i> (gidgee) and/or emergent eucalypts.	4.52	0.09
30b	Tussock grasslands dominated by <i>Astrebla</i> spp. (mitchell grass) or <i>Dichanthium</i> spp. (bluegrass) often with <i>Iseilema</i> spp. on undulating downs or clay plains.	10.23	0.19
34d	Palustrine wetlands. Freshwater swamps/springs/billabongs on floodplains ranging from permanent and semi-permanent to ephemeral.	10.83	0.20

BVG (1 Million)	Description	Area (Ha)	% of AOI
9e	Open forests, woodlands and open woodlands dominated by <i>Corymbia clarksoniana</i> (grey bloodwood) (or <i>C. novoguineensis</i> or <i>C. intermedia</i> (pink bloodwood) or <i>C. polycarpa</i> (long-fruited bloodwood)) frequently with <i>Erythrophleum chlorostachys</i> (red ironwood) or <i>Eucalyptus platyphylla</i> (poplar gum) predominantly on coastal sandplains and alluvia.	113.16	2.14

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community.

<http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

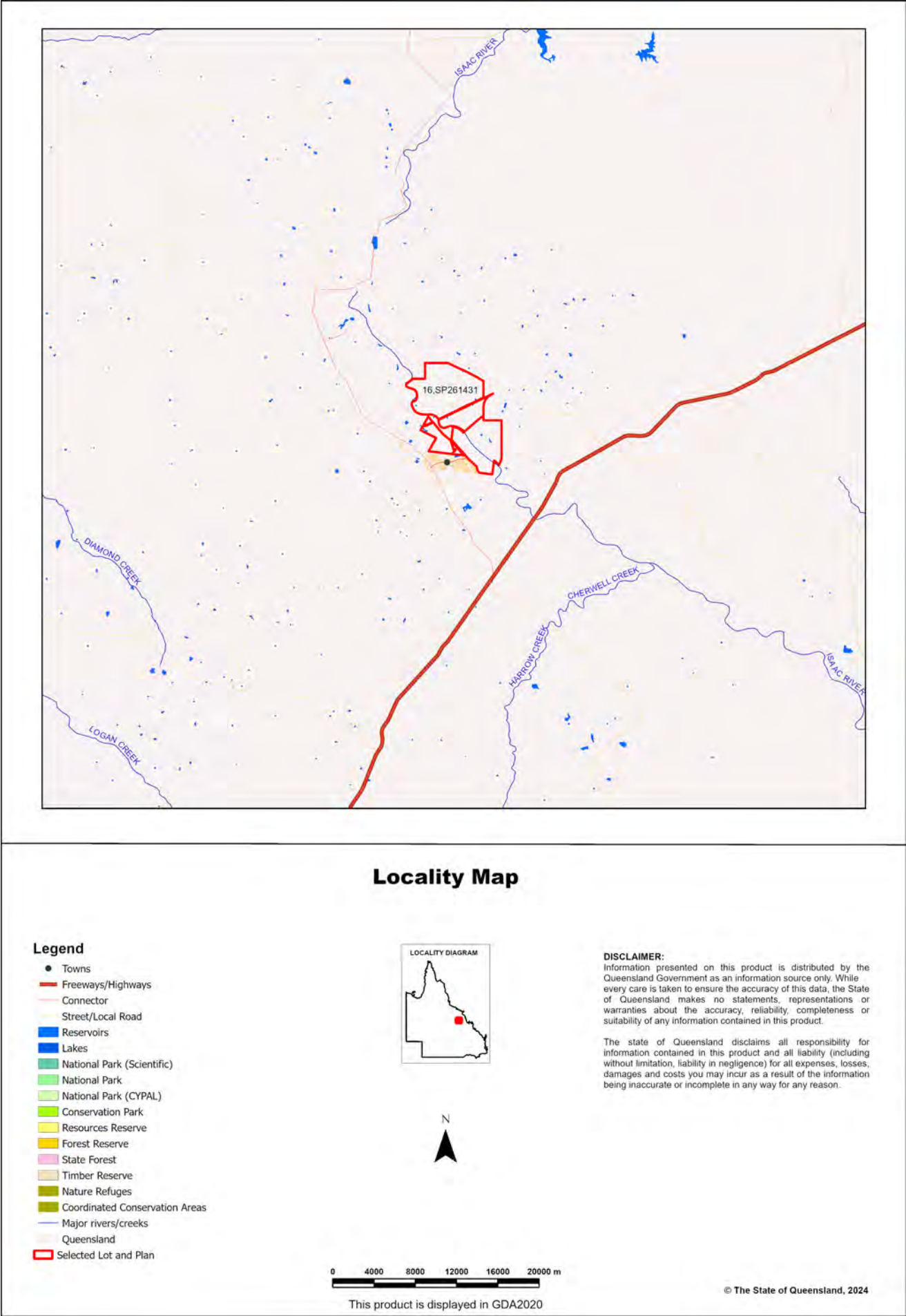
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

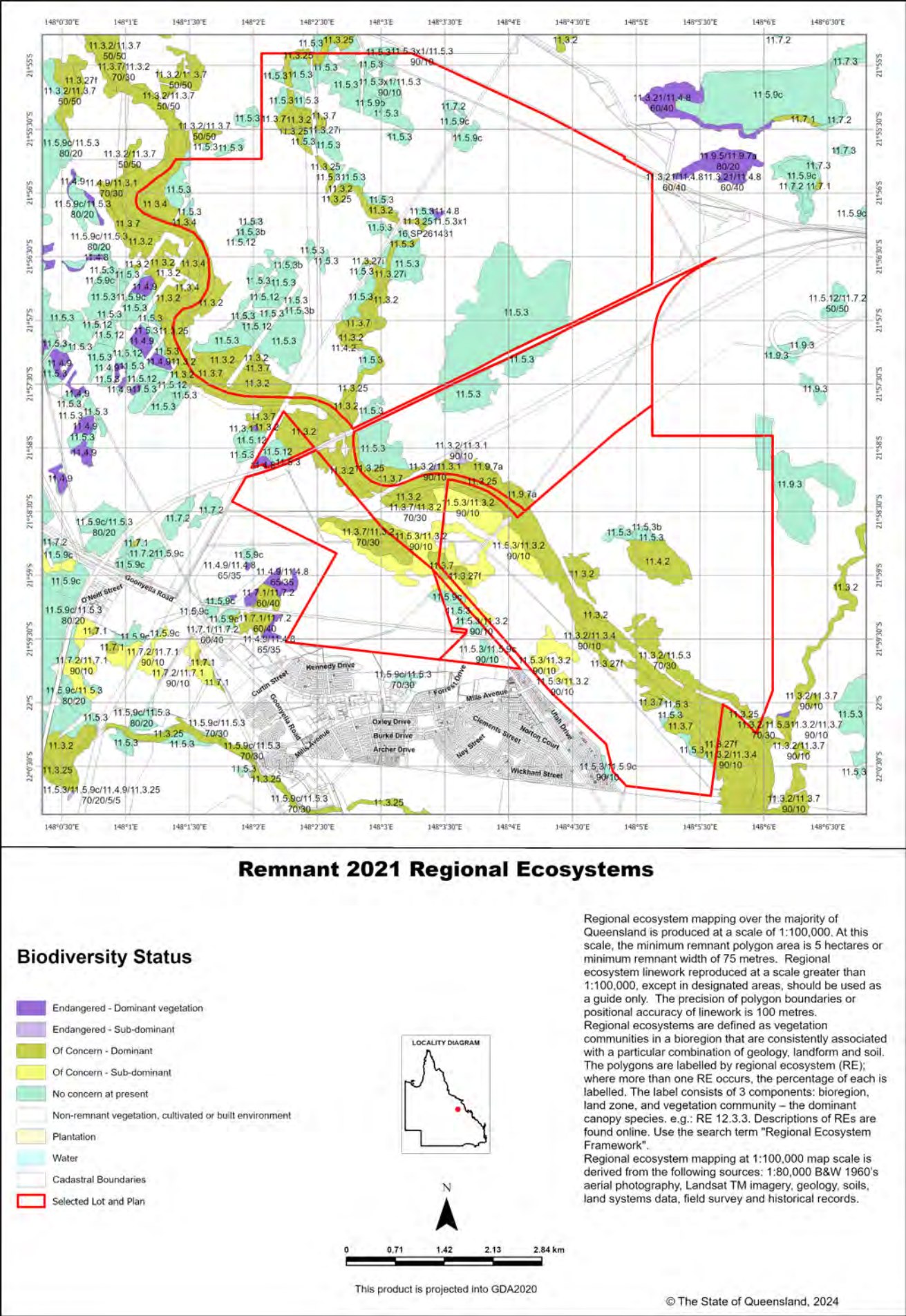
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
11.3.1	Available	Available
11.3.2	Available	Available
11.3.25	Available	Available
11.3.27f	Available	Available
11.3.27i	Available	Available
11.3.4	Available	Available
11.3.7	Available	Available
11.4.2	Available	Available
11.4.8	Available	Available
11.5.12	Available	Available
11.5.3	Available	Available
11.5.3b	Not currently available	Not currently available
11.5.3x1	Not currently available	Not currently available
11.5.9b	Available	Available
11.5.9c	Available	Not currently available
11.7.2	Available	Available
11.9.3	Available	Available
11.9.7a	Available	Not currently available
non-remnant	Not currently available	Not currently available

Maps

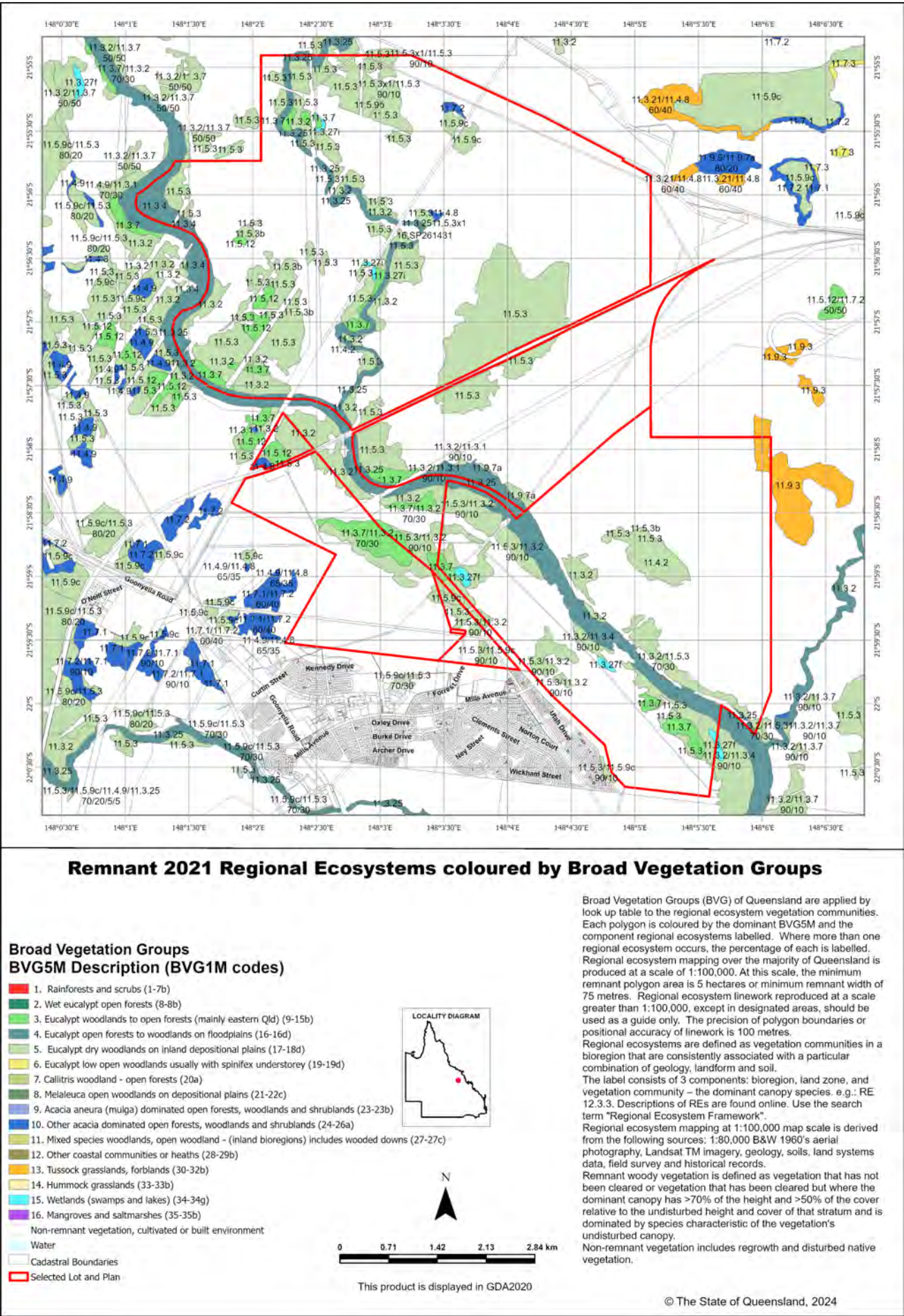
Map 1 - Location



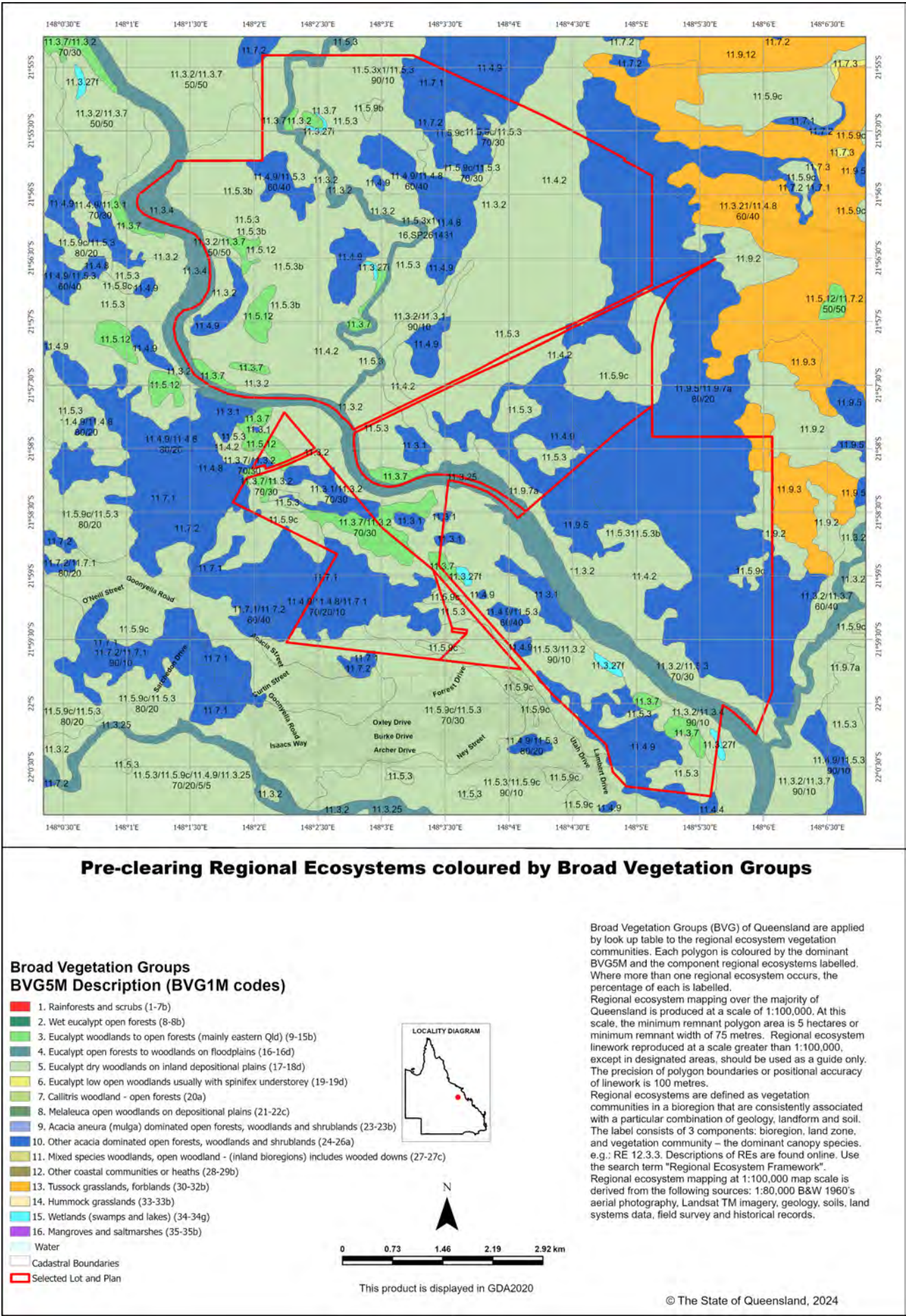
Map 2 - Remnant 2021 regional ecosystems



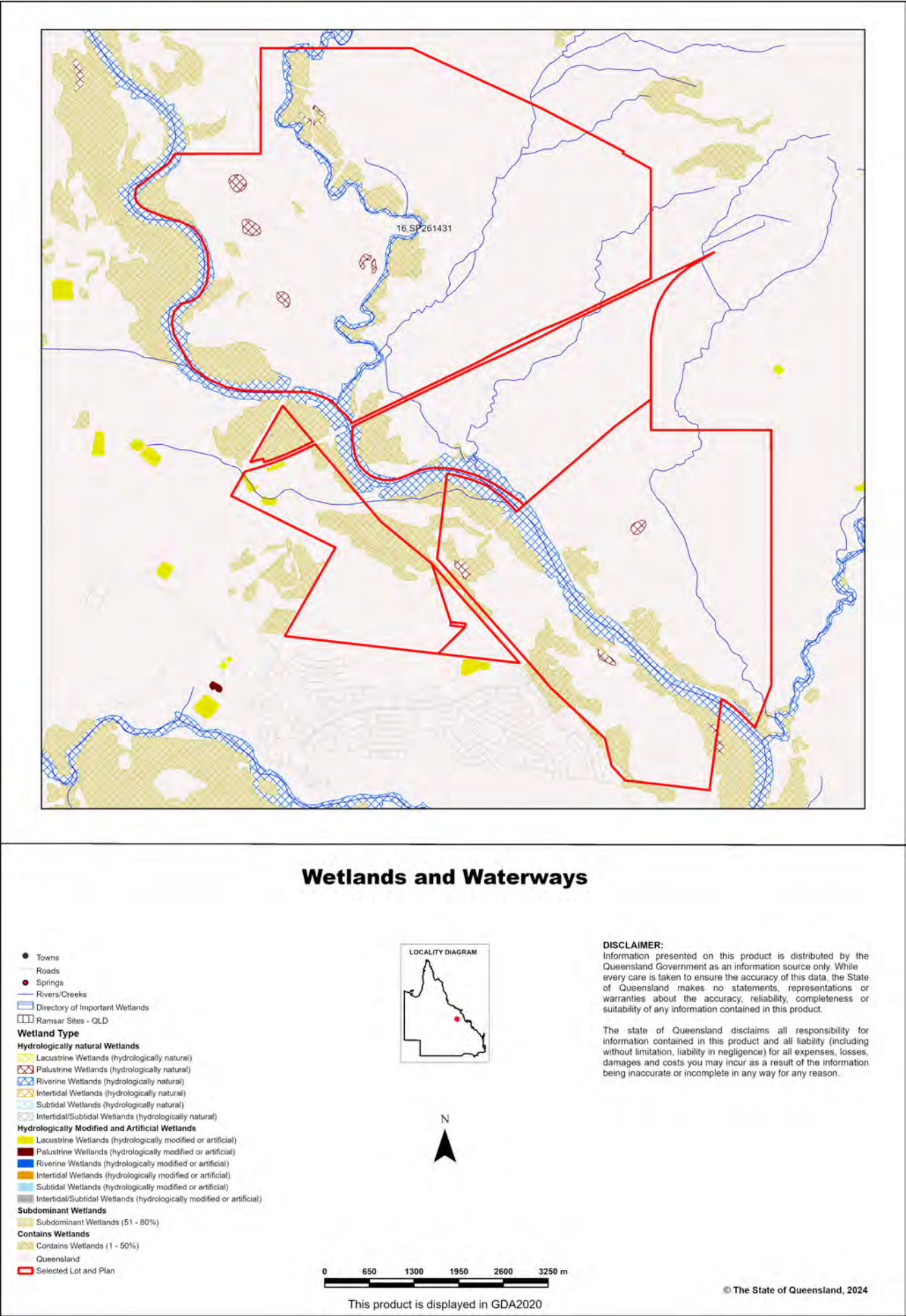
Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial-catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

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Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/information/spatial-catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 5295.2 Lot: 16 Plan: SP261431
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 16 Plan: SP261431

Table 1. Area of interest details

Size (ha)	
5,295.20	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

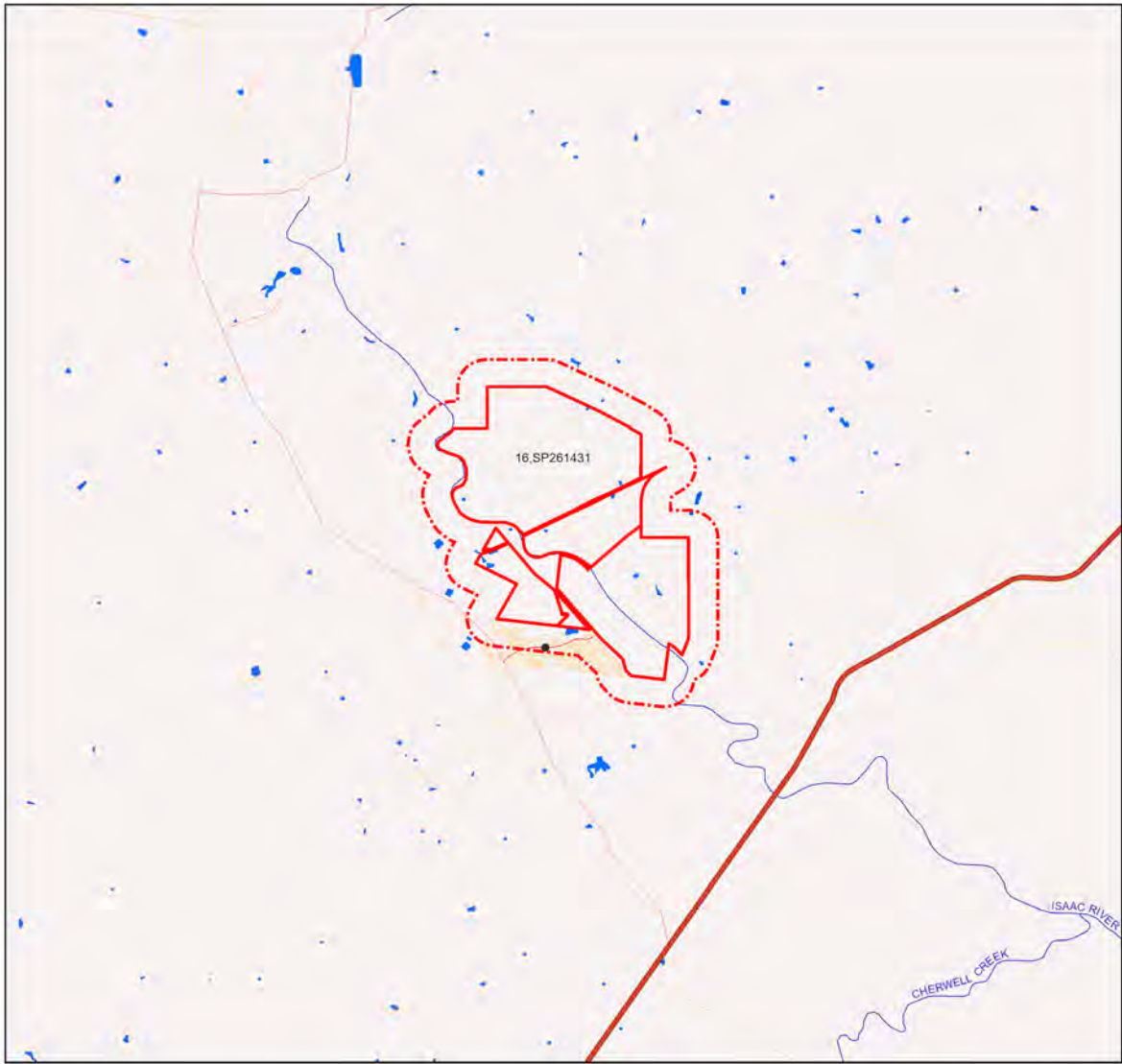
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

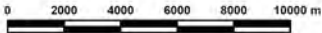
Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - Selected Lot and Plan
 - 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
716	Amphibia	Bufonidae	<i>Rhinella marina</i>	cane toad			0	3	11/26/2015
627	Amphibia	Hylidae	<i>Litoria caerulea</i>	common green treefrog	C		0	1	5/22/2012
608	Amphibia	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog	C		0	1	12/1/2017
612	Amphibia	Hylidae	<i>Litoria inermis</i>	bumpy rocketfrog	C		0	1	5/15/2012
600	Amphibia	Hylidae	<i>Litoria rubella</i>	ruddy treefrog	C		0	1	12/1/2017
684	Amphibia	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog	C		0	2	11/26/2015
680	Amphibia	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog	C		0	3	12/1/2017
1418	Aves	Acanthizidae	<i>Acanthiza apicalis</i>	inland thornbill	C		0	2	6/8/1988
1396	Aves	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone	C		0	5	11/26/2015
1403	Aves	Acanthizidae	<i>Pyrrholaemus sagittatus</i>	speckled warbler	C		0	1	5/23/2012
1371	Aves	Acanthizidae	<i>Smicromis brevirostris</i>	weebill	C		0	5	5/24/2012
1729	Aves	Accipitridae	<i>Accipiter fasciatus</i>	brown goshawk	C		0	1	11/26/2015
1732	Aves	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle	C		0	1	11/26/2015
1726	Aves	Accipitridae	<i>Elanus scriptus</i>	letter-winged kite	C		0	2	5/3/1988
1707	Aves	Accipitridae	<i>Haliastur sphenurus</i>	whistling kite	C		0	3	5/2/2012
1714	Aves	Accipitridae	<i>Milvus migrans</i>	black kite	C		0	2	11/16/2000
1305	Aves	Acrocephalidae	<i>Acrocephalus australis</i>	Australian reed-warbler	C		0	1	5/28/2001
1767	Aves	Alcedinidae	<i>Dacelo novaeguineae</i>	laughing kookaburra	C		0	3	5/15/2012
1762	Aves	Alcedinidae	<i>Todiramphus sanctus</i>	sacred kingfisher	C		0	1	9/19/2000
1993	Aves	Anatidae	<i>Anas gracilis</i>	grey teal	C		0	2	5/15/2012
1998	Aves	Anatidae	<i>Anas superciliosa</i>	Pacific black duck	C		0	1	5/28/2001
1999	Aves	Anatidae	<i>Aythya australis</i>	hardhead	C		0	1	5/28/2001
2003	Aves	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck	C		0	1	5/28/2001

1996	Aves	Anatidae	<i>Spatula rhynchotis</i>	Australasian shoveler	C		0	1	6/6/1988
1279	Aves	Anhinga	<i>Anhinga novaehollandiae</i>	Australasian darter	C		0	2	5/15/2012
1829	Aves	Ardeidae	<i>Ardea alba modesta</i>	eastern great egret	C		0	2	5/15/2012
1826	Aves	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron	C		0	3	5/15/2012
1658	Aves	Artamidae	<i>Artamus cinereus</i>	black-faced woodswallow	C		0	1	8/3/1992
1659	Aves	Artamidae	<i>Artamus cyanopterus</i>	dusky woodswallow	C		0	1	8/3/1992
1660	Aves	Artamidae	<i>Artamus leucorhynchus</i>	white-breasted woodswallow	C		0	2	11/16/2000
1647	Aves	Artamidae	<i>Artamus personatus</i>	masked woodswallow	C		0	2	8/3/1992
1654	Aves	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird	C		0	6	5/24/2012
1656	Aves	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird	C		0	3	5/2/2012
1644	Aves	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie	C		0	4	5/2/2012
1645	Aves	Artamidae	<i>Strepera graculina</i>	pied currawong	C		0	4	11/26/2015
1191	Aves	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo	C		0	3	5/28/2001
1193	Aves	Cacatuidae	<i>Eolophus roseicapilla</i>	galah	C		0	5	5/2/2012
1636	Aves	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	C		0	6	5/2/2012
1642	Aves	Campephagidae	<i>Lalage tricolor</i>	white-winged triller	C		0	1	9/19/2000
1940	Aves	Charadriidae	<i>Euseyonis melanops</i>	black-fronted dotterel	C		0	1	5/28/2001
27774	Aves	Charadriidae	<i>Vanellus miles</i>	masked lapwing	C		0	1	5/28/2001
1820	Aves	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black-necked stork	C		0	2	4/28/2012
1810	Aves	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove	C		0	1	5/2/2012
18323	Aves	Columbidae	<i>Geopelia placida</i>	peaceful dove	C		0	2	11/26/2015
1785	Aves	Columbidae	<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	0	5	11/30/2014
1793	Aves	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon	C		0	2	11/26/2015
1779	Aves	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird	C		0	1	11/16/2000

1605	Aves	Corcoracidae	<i>Struthidea cinerea</i>	apostlebird	C		0	4	5/15/2012
1609	Aves	Corvidae	<i>Corvus orru</i>	Torresian crow	C		0	8	5/24/2012
1754	Aves	Cuculidae	<i>Cacomantis flabelliformis</i>	fan-tailed cuckoo	C		0	1	6/7/1988
1750	Aves	Cuculidae	<i>Cacomantis pallidus</i>	pallid cuckoo	C		0	1	11/16/2000
1751	Aves	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal	C		0	2	11/26/2015
1746	Aves	Cuculidae	<i>Chalcites minutillus</i>	little bronze-cuckoo	C		0	1	11/26/2015
1738	Aves	Cuculidae	<i>Eudynamis orientalis</i>	eastern koel	C		0	2	11/26/2015
1740	Aves	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo	C		0	1	9/19/2000
1611	Aves	Dicaeidae	<i>Dicaeum hirundinaceum</i>	mistletoebird	C		0	1	9/19/2000
1342	Aves	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch	C		0	2	5/2/2012
1704	Aves	Falconidae	<i>Falco cenchroides</i>	nankeen kestrel	C		0	2	11/16/2000
1678	Aves	Gruidae	<i>Antigone rubicunda</i>	brolga	C		0	2	11/26/2015
1585	Aves	Hirundinidae	<i>Petrochelidon ariel</i>	fairy martin	C		0	1	11/16/2000
18459	Aves	Maluridae	<i>Malurus assimilis</i>	purple-backed fairy-wren	C		0	2	5/23/2012
1570	Aves	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren	C		0	2	6/8/1988
1558	Aves	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren	C		0	3	4/28/2012
1539	Aves	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater	C		0	5	5/2/2012
1496	Aves	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater	C		0	2	5/2/2012
1497	Aves	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater	C		0	1	9/19/2000
1499	Aves	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner	C		0	4	5/2/2012
1500	Aves	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner	C		0	1	9/19/2000
1507	Aves	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater	C		0	3	11/26/2015
1493	Aves	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird	C		0	2	5/2/2012
1494	Aves	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird	C		0	3	5/2/2012

1471	Aves	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater	C		0	1	5/16/2012
1764	Aves	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater	C		0	3	11/26/2015
1594	Aves	Monarchidae	<i>Carterornis leucotis</i>	white-eared monarch	C		0	1	6/7/1988
1589	Aves	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark	C		0	7	11/26/2015
1600	Aves	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher	C		0	1	5/15/2012
1453	Aves	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella	C		0	1	5/15/2012
1442	Aves	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole	C		0	2	11/16/2000
1444	Aves	Oriolidae	<i>Sphecotheres vieilloti</i>	Australasian figbird	C		0	1	11/16/2000
1449	Aves	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush	C		0	1	9/19/2000
1392	Aves	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote	C		0	4	5/15/2012
1360	Aves	Passeridae	<i>Passer domesticus</i>	house sparrow			0	1	5/28/2001
1261	Aves	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant	C		0	2	5/15/2012
1263	Aves	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant	C		0	2	5/15/2012
1687	Aves	Phasianidae	<i>Synoicus ypsilophorus</i>	brown quail	C		0	2	5/2/2012
1955	Aves	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth	C		0	2	11/26/2015
1249	Aves	Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian grebe	C		0	1	5/28/2001
1318	Aves	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler	C		0	3	5/15/2012
1182	Aves	Psittaculidae	<i>Aprosmictus erythropterus</i>	red-winged parrot	C		0	2	11/26/2015
1151	Aves	Psittaculidae	<i>Melopsittacus undulatus</i>	budgerigar	C		0	1	6/30/1988
1136	Aves	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella	C		0	5	11/26/2015
1125	Aves	Psittaculidae	<i>Trichoglossus moluccanus</i>	rainbow lorikeet	C		0	5	11/26/2015
1160	Aves	Ptilonorhynchidae	<i>Chlamydera maculata</i>	spotted bowerbird	C		0	1	9/19/2000
1673	Aves	Rallidae	<i>Gallinula tenebrosa</i>	dusky moorhen	C		0	1	5/28/2001
1662	Aves	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen	C		0	1	5/28/2001

1575	Aves	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail	C		0	3	5/24/2012
1576	Aves	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail	C		0	5	5/15/2012
1102	Aves	Strigidae	<i>Ninox boobook</i>	southern boobook	C		0	2	11/26/2015
1101	Aves	Strigidae	<i>Ninox connivens</i>	barking owl	C		0	1	5/28/2001
1822	Aves	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill	C		0	1	5/28/2001
1823	Aves	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill	C		0	2	5/16/2012
1812	Aves	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis	C		0	2	5/16/2012
1800	Aves	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis	C		0	1	5/28/2001
1075	Mammalia	Cervidae	<i>Axis axis</i>	chital			0	1	5/2/2012
1006	Mammalia	Emballonuridae	<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tail bat	C		0	1	8/5/2020
834	Mammalia	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit			0	1	8/12/2021
905	Mammalia	Macropodidae	<i>Osphranter rufus</i>	red kangaroo	C		0	1	11/26/2015
767	Mammalia	Muridae	<i>Hydromys chrysogaster</i>	water rat	C		0	1	5/15/2012
784	Mammalia	Peramelidae	<i>Isoodon macrourus</i>	northern brown bandicoot	C		0	1	11/26/2015
36762	Mammalia	Petauridae	<i>Petaurus notatus</i>	Kreff's glider	C		0	1	5/22/2012
859	Mammalia	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum	C		0	1	5/15/2012
860	Mammalia	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala	E	E	0	1	12/31/1996
862	Mammalia	Potoroidae	<i>Aepyprymnus rufescens</i>	rufous bettong	C		0	3	11/26/2015
2455	Mammalia	Pseudocheiridae	<i>Petauroides volans volans</i>	southern greater glider	E	E	0	3	11/26/2015
963	Mammalia	Pteropodidae	<i>Pteropus scapulatus</i>	little red flying-fox	C		0	2	12/11/2015
1080	Mammalia	Suidae	<i>Sus scrofa</i>	pig			0	1	5/2/2012
838	Mammalia	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna	SL		0	1	5/24/2012
972	Mammalia	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat	C		0	1	11/26/2015
973	Mammalia	Vespertilionidae	<i>Chalinolobus morio</i>	chocolate wattled bat	C		0	1	11/26/2015

948	Mammalia	Vespertilionidae	<i>Chalinolobus picatus</i>	little pied bat	C		0	3	5/24/2012
946	Mammalia	Vespertilionidae	<i>Nyctophilus bifax</i>	northern long-eared bat	C		0	1	11/26/2015
932	Mammalia	Vespertilionidae	<i>Scotorepens sanborni</i>	northern broad-nosed bat	C		0	1	11/26/2015
567	Reptilia	Agamidae	<i>Diporiphora australis</i>	tommy roundhead	C		0	1	1/17/2020
537	Reptilia	Boidae	<i>Antaresia maculosa</i>	spotted python	C		0	2	11/26/2015
455	Reptilia	Elapidae	<i>Cryptophis boschmai</i>	Carpentaria whip snake	C		0	1	5/22/2012
479	Reptilia	Elapidae	<i>Hoplocephalus bitorquatus</i>	pale-headed snake	C		0	1	5/22/2012
454	Reptilia	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake	C		0	1	11/26/2015
441	Reptilia	Elapidae	<i>Suta suta</i>	myall snake	C		0	2	3/17/2015
420	Reptilia	Gekkonidae	<i>Gehyra dubia</i>	dubious dtella	C		0	14	8/5/2020
413	Reptilia	Gekkonidae	<i>Heteronotia binoei</i>	Bynoe's gecko	C		0	1	5/24/2012
325	Reptilia	Pygopodidae	<i>Lialis burtonis</i>	Burton's legless lizard	C		0	3	8/5/2020
294	Reptilia	Scincidae	<i>Carlia munda</i>	shaded-litter rainbow-skink	C		0	1	5/16/2012
283	Reptilia	Scincidae	<i>Cryptoblepharus pannosus</i>	ragged snake-eyed skink	C		0	1	7/21/1994
260	Reptilia	Scincidae	<i>Cryptoblepharus virgatus sensu lato</i>		C		0	1	9/15/1971
240	Reptilia	Scincidae	<i>Ctenotus spaldingi</i>	straight-browed ctenotus	C		0	1	1/16/2020
134	Reptilia	Scincidae	<i>Morethia boulengeri</i>	south-eastern morethia skink	C		0	1	7/21/1994
60	Reptilia	Varanidae	<i>Varanus tristis</i>	black-tailed monitor	C		0	2	1/16/2020

Table 3. Plants recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
23242	Lecanoromycetes	Lecideaceae	<i>Lecidea</i>				3	3	6/18/2007
24426	Lecanoromycetes	Parmeliaceae	<i>Xanthoparmelia ballingalliana</i>		C		2	2	6/15/2007
22988	Lecanoromycetes	Teloschistaceae	<i>Caloplaca cinnabarina</i>		C		1	1	6/15/2007
24295	Lichinomycetes	Peltulaceae	<i>Peltula placodizans</i>		C		1	1	6/15/2007

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

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Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 19 Plan: SP308954

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

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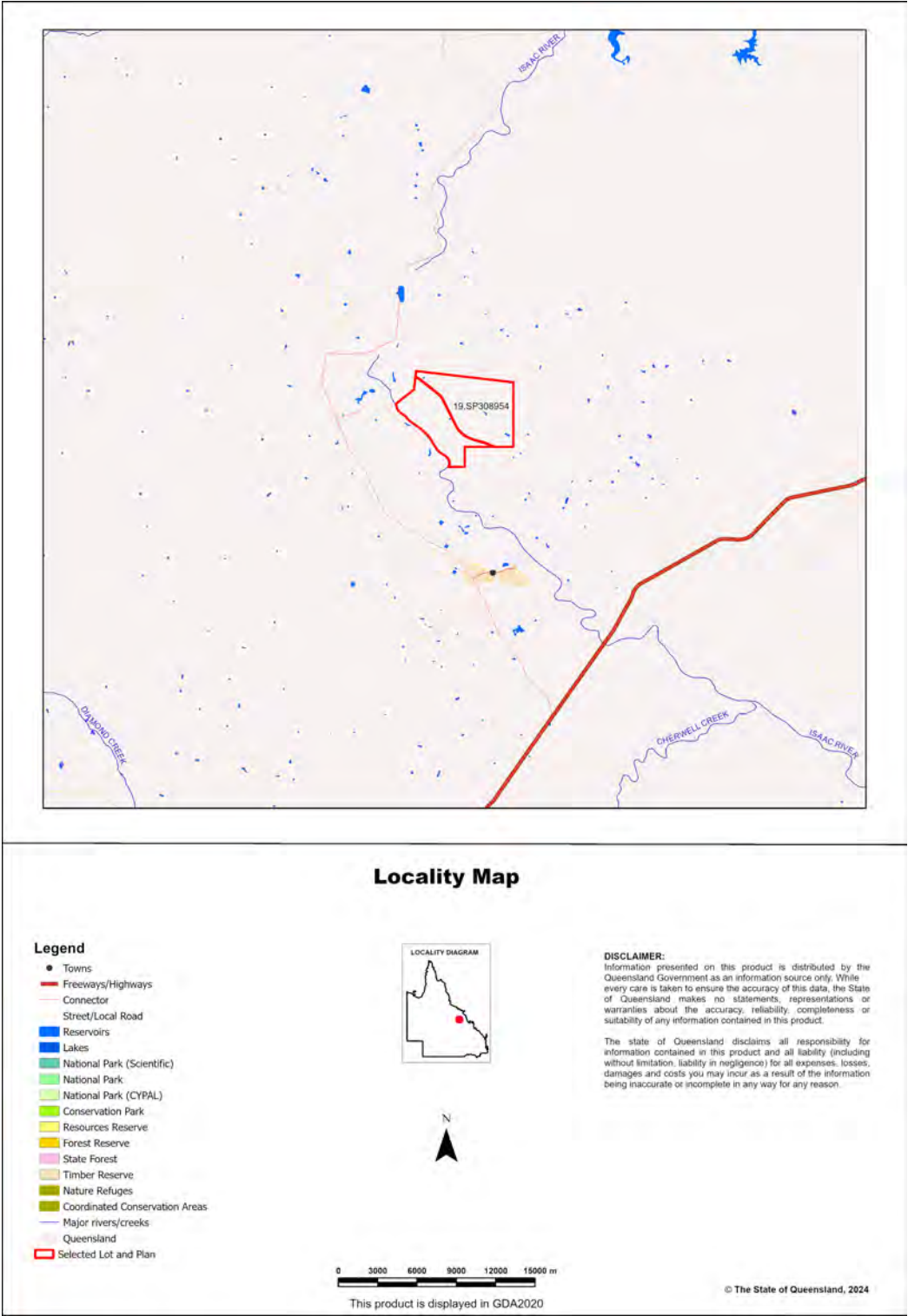
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 19 Plan: SP308954, with area 3973.33 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004* ;
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008*;
- *Threatened wildlife under the Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	1620.59 ha	40.8%
7b Special least concern animals	88.52 ha	2.2%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	83.33 ha	2.1%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	5.75 ha	0.1%
8d Regulated Vegetation - Essential habitat	1796.48 ha	45.2%
8e Regulated Vegetation - intersecting a watercourse	34.3 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	36.75 ha	0.9%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

7b. Special least concern animals

Values are present

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	Core
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	None
<i>Petauroides armillatus</i>	central greater glider	E	E	None

Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Tachyglossus aculeatus</i>	short-beaked echidna	None

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

**Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
11.3.2/11.3.7	O-dom	rem_oc
11.4.9	E-dom	rem_end

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8554

8d. Regulated Vegetation - Essential habitat

Values are present

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Regulated vegetation map category	Map number
B	8454
B	8554

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

MSES - Offsets**9a. Legally secured offset areas - offset register areas**

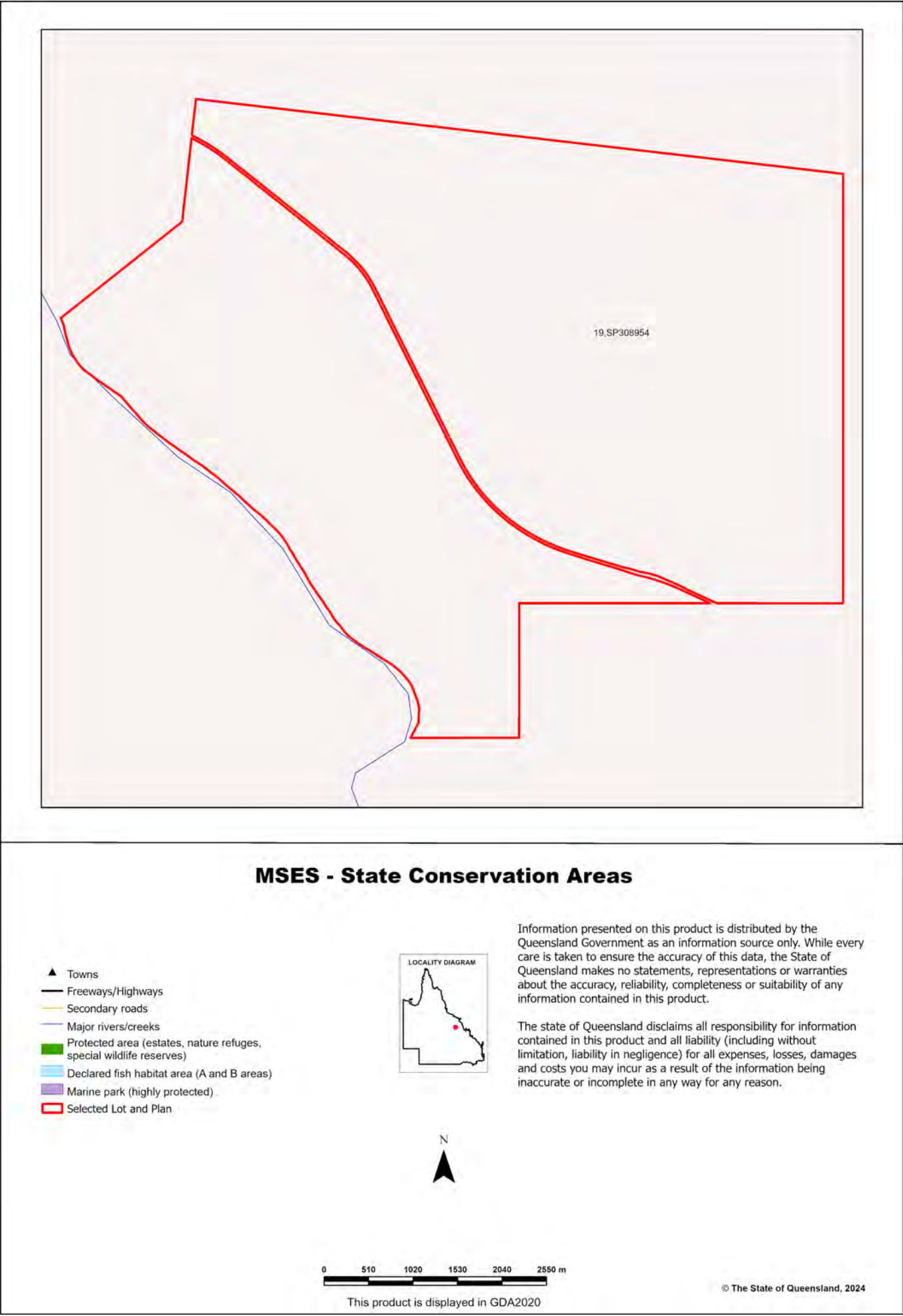
(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

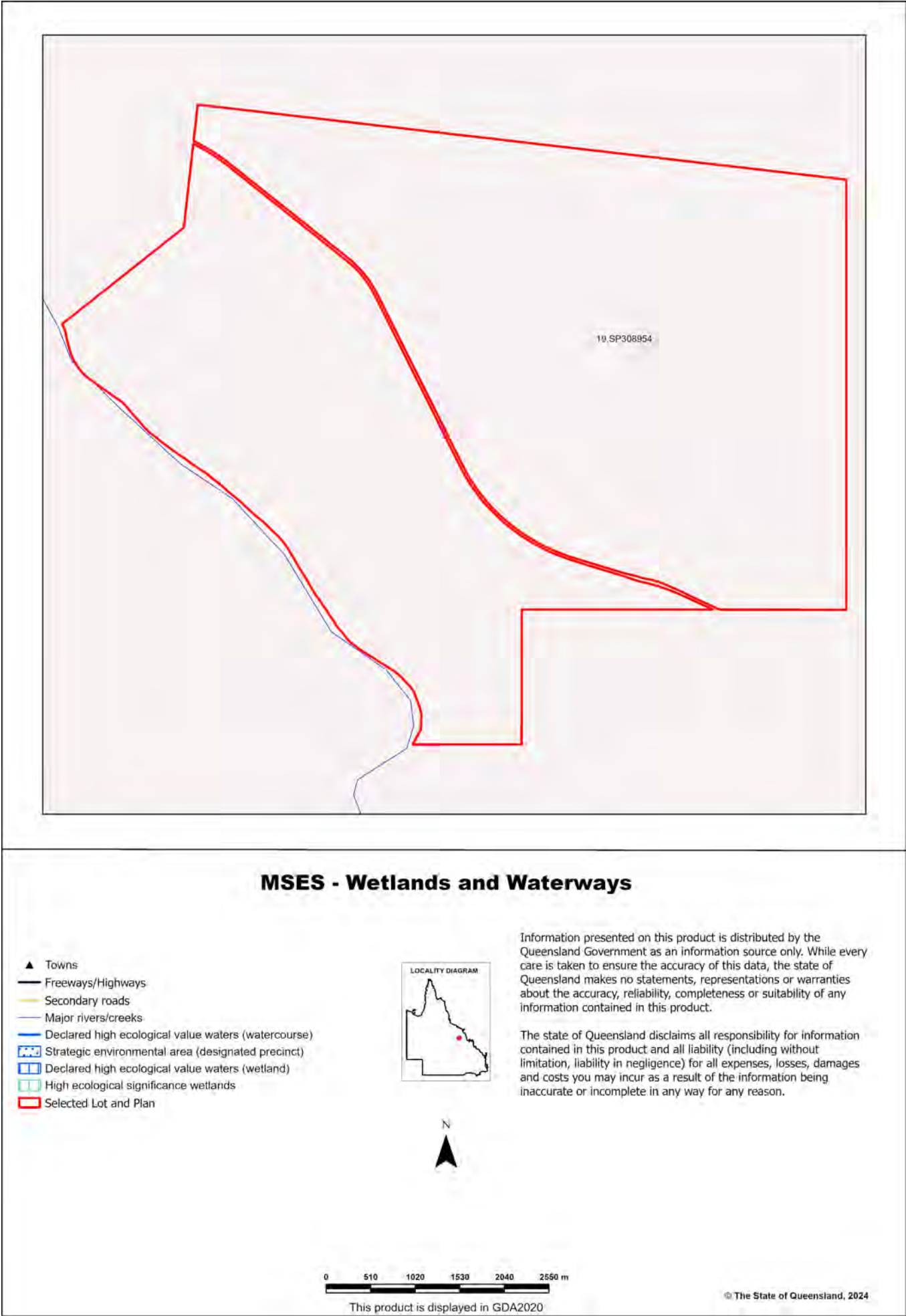
(No results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

Map 1 - MSES - State Conservation Areas



Map 2 - MSES - Wetlands and Waterways



An aerial photograph of a property. A red line outlines a large, irregularly shaped area. Within this red-outlined area, there is a smaller, irregularly shaped area filled with yellow. The yellow area has a complex, somewhat jagged boundary. The surrounding area is a mix of light and dark green, suggesting vegetation. The red-outlined area is labeled with the number '19,SP308954' in the upper right corner.

▲ Towns
— Freeways/Highways
— Secondary roads
— Major rivers/creeks
Wildlife habitat (special least concern)
Wildlife habitat (endangered or vulnerable)
Selected Lot and Plan



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Map 3b - MSES - Species - Koala habitat area (SEQ)



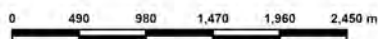
MSES - Species Koala habitat area (SEQ)

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Selected Lot and Plan



The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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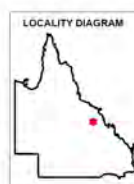
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The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area-locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)

**MSES - Wildlife habitat (sea turtle nesting areas)**

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Wildlife habitat (sea turtle nesting areas)
- ▭ Selected Lot and Plan

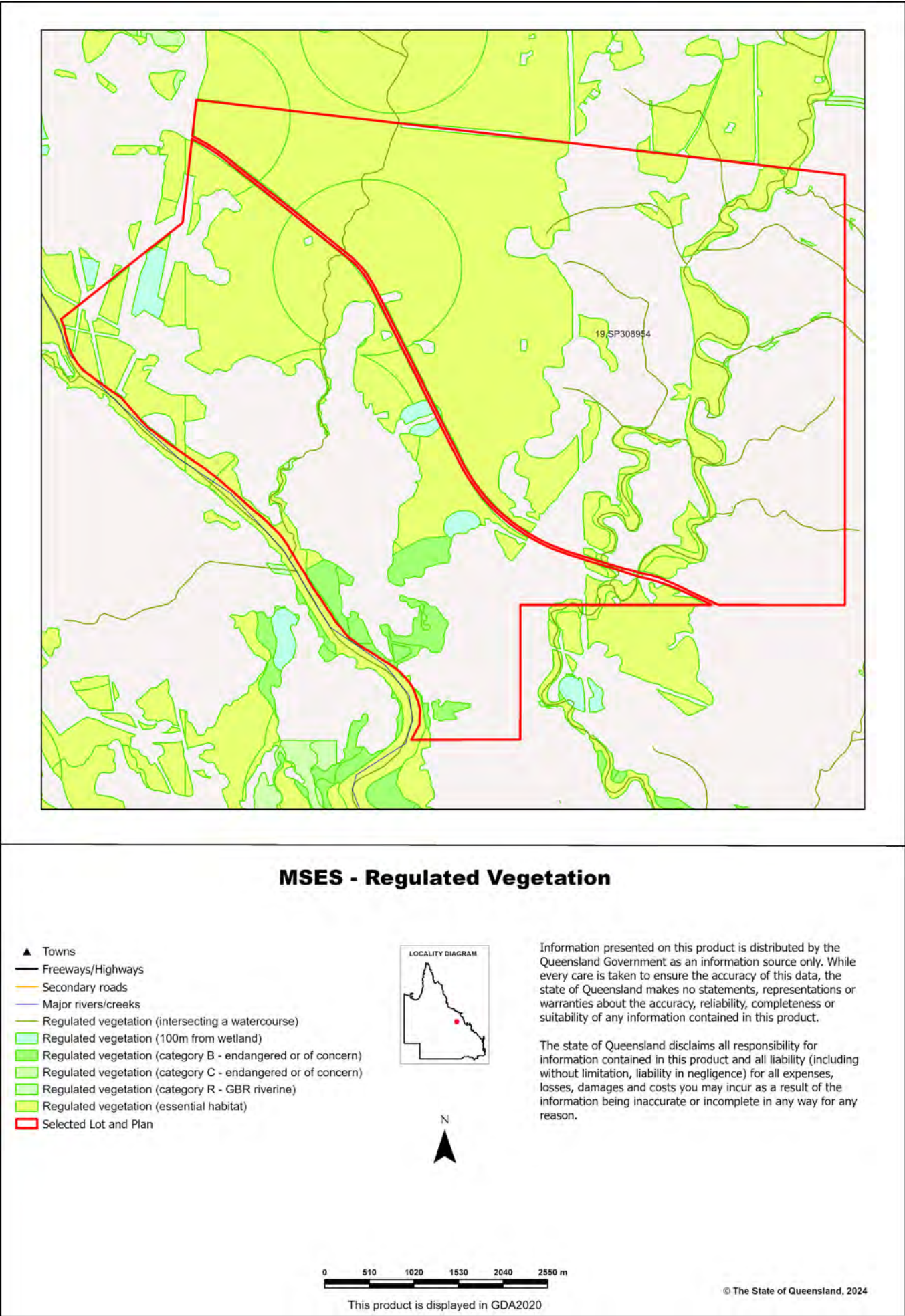


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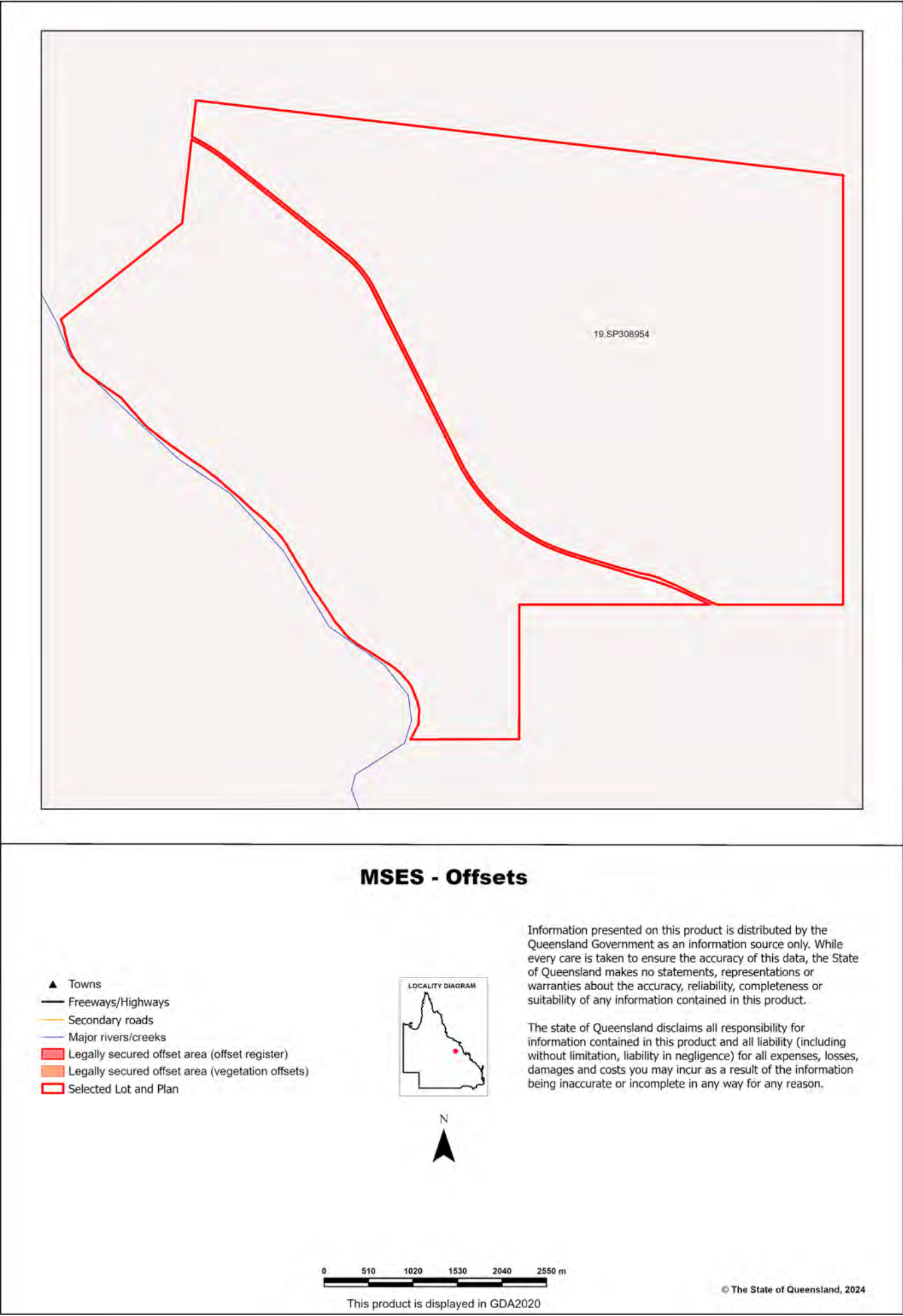
MSES mapping of sea turtle nesting areas identifies beaches where the recorded number of turtle nests are over 1% of the turtle species or genetic stock. The linework is also deliberately extended along nearby rocky coastlines and headlands to recognise that significant numbers of nesting adults and hatchlings can become disoriented by light pollution from development on rocky coastlines and headlands while navigating offshore from nesting beaches.

0 490 980 1,470 1,960 2,450 m

Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 19 Plan: SP308954

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 2020). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 19 Plan: SP308954, with area 3973.33 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.00	0.00
Of concern	267.34	6.73
No concern at present	1,610.42	40.53
Total remnant vegetation	1,877.76	47.26

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

*****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.*

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
11.3.2	Eucalyptus populnea woodland on alluvial plains	Of concern	34.73	0.87
11.3.25	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Of concern	193.56	4.87
11.3.27f	Freshwater wetlands	Of concern	2.44	0.06
11.3.7	Corymbia spp. open woodland on alluvial plains	Of concern	34.73	0.87
11.5.3	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	1,081.29	27.21
11.5.3b	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	2.40	0.06
11.5.3x1	Eucalyptus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	0.87	0.02
11.5.9	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	256.13	6.45
11.5.9c	Eucalyptus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	No concern at present	86.24	2.17
11.7.1	Acacia harpophylla and/or Casuarina cristata and Eucalyptus thozetiana or E. microcarpa woodland on lower scarp slopes on Cainozoic lateritic duricrust	Of concern	1.88	0.05
11.7.2	Acacia spp. woodland on Cainozoic lateritic duricrust. Scarp retreat zone	No concern at present	162.29	4.08
11.7.3	Eucalyptus persistens, Triodia mitchellii open woodland on stripped margins of Cainozoic lateritic duricrust	No concern at present	1.45	0.04
11.7.5	Shrubland on natural scalds on deeply weathered coarse-grained sedimentary rocks	No concern at present	19.76	0.50
non-remnant	None	None	2,095.57	52.74

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
11.3.2	Pre-clearing 1905000 ha; Remnant 2021 499000 ha	17a	Contains Palustrine	Low
11.3.25	Pre-clearing 813000 ha; Remnant 2021 531000 ha	16a	Riverine	Low
11.3.27f	Pre-clearing 63000 ha; Remnant 2021 43000 ha	34d	Palustrine	Low
11.3.7	Pre-clearing 141000 ha; Remnant 2021 61000 ha	9e	Not a Wetland	Low
11.5.3	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low
11.5.3b	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Palustrine	Low
11.5.3x1	Pre-clearing 975000 ha; Remnant 2021 366000 ha	17a	Not a Wetland	Low
11.5.9	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
11.5.9c	Pre-clearing 366000 ha; Remnant 2021 238000 ha	18b	Not a Wetland	Low
11.7.1	Pre-clearing 196000 ha; Remnant 2021 76000 ha	25a	Not a Wetland	Low
11.7.2	Pre-clearing 549000 ha; Remnant 2021 358000 ha	24a	Not a Wetland	Low
11.7.3	Pre-clearing 105000 ha; Remnant 2021 92000 ha	19d	Not a Wetland	Low
11.7.5	Pre-clearing 74000 ha; Remnant 2021 63000 ha	29b	Not a Wetland	Medium
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
11.3.2	11.3.2: Habitat for threatened flora species <i>Homopholis belsonii</i> . This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.3.25	11.3.25: Shown to be associated with a high fauna species richness in the Taroom area (Venz et al. 2002). Within parts of the Fitzroy catchment, this RE is known habitat for the threatened freshwater turtle <i>Rheodytes leukops</i> . Known to be important habitat for other riparian freshwater turtle species. This ecosystem is also known to provide suitable habitat for koalas (<i>Phascolarctos cinereus</i>).
11.3.27f	11.3.27: Habitat for a diverse range of fauna species (Venz et al. 2002) particularly birds. 11.3.27a: Provides wetland habitat for a flora and fauna.
11.3.7	11.3.7: Habitat of the endangered northern hairy-nosed wombat, <i>Lasiorninus krefftii</i> .
11.5.3	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.3b	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.3x1	11.5.3: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> . 11.5.3x1: Potential habitat for NCA listed species: <i>Sannantha brachypoda</i> .
11.5.9	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elaeagnifolium</i> .
11.5.9c	11.5.9: Potential habitat for NCA listed species: <i>Cerbera dumicola</i> , <i>Cossinia australiana</i> , <i>Cycas ophiolitica</i> , <i>Solanum elaeagnifolium</i> .
11.7.1	11.7.1: Habitat for threatened plant species including <i>Cadellia pentastylis</i> .
11.7.2	11.7.2: Habitat for threatened plant species including <i>Acacia wardellii</i> .
11.7.3	11.7.3: Potential habitat for NCA listed species: <i>Marsdenia pumila</i> .
11.7.5	11.7.5: Habitat of threatened plant species including <i>Eucalyptus broviniensis</i> , <i>Micromyrtus carinata</i> , <i>Micromyrtus patula</i> , <i>Acacia curranii</i> , <i>Calytrix gurlumundensis</i> and <i>Homoranthus decumbens</i> .
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	2,095.57	52.74
16a	Open forest and woodlands dominated by <i>Eucalyptus camaldulensis</i> (river red gum) (or <i>E. tereticornis</i> (blue gum)) and/or <i>E. coolabah</i> (coolabah) (or <i>E. microtheca</i> (coolabah)) fringing drainage lines. Associated species may include <i>Melaleuca</i> spp., <i>Corymbia tessellaris</i> (carbeen), <i>Angophora</i> spp., <i>Casuarina cunninghamiana</i> (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	193.56	4.87
17a	Woodlands dominated by <i>Eucalyptus populnea</i> (poplar box) (or <i>E. brownii</i> (Reid River box)) on alluvium, sand plains and footslopes of hills and ranges.	1,119.29	28.17
18b	Woodlands dominated <i>Eucalyptus crebra</i> (sens. lat.) (narrow-leaved red ironbark) frequently with <i>Corymbia</i> spp. or <i>Callitris</i> spp. on flat to undulating plains.	342.37	8.62
19d	Low open woodlands dominated by <i>Eucalyptus persiciens</i> (or <i>E. normantonensis</i> (Normanton box), <i>E. tardecidens</i>) with <i>Triodia</i> spp. dominated ground layer, mainly on hills and ranges.	1.45	0.04
24a	Low woodlands to tall shrublands dominated by <i>Acacia</i> spp. on residuals. Species include <i>A. shirleyi</i> (lancewood), <i>A. catenulata</i> (bendee), <i>A. microsperma</i> (bowyakka), <i>A. clivicola</i> , <i>A. sibirica</i> , <i>A. rhodoxylon</i> (rosewood) and <i>A. leptostachya</i> (Townsville wattle).	162.29	4.08
25a	Open forests to woodlands dominated by <i>Acacia harpophylla</i> (brigalow) sometimes with <i>Casuarina cristata</i> (belah) on heavy clay soils. Includes areas co-dominated with <i>A. cambagei</i> (gidgee) and/or emergent eucalypts.	1.88	0.05
29b	Open shrublands to open heaths on elevated rocky locations.	19.76	0.50
34d	Palustrine wetlands. Freshwater swamps/springs/billabongs on floodplains ranging from permanent and semi-permanent to ephemeral.	2.44	0.06
9e	Open forests, woodlands and open woodlands dominated by <i>Corymbia clarksoniana</i> (grey bloodwood) (or <i>C. novoguineensis</i> or <i>C. intermedia</i> (pink bloodwood) or <i>C. polycarpa</i> (long-fruited bloodwood)) frequently with <i>Erythrophloeum chlorostachys</i> (red ironwood) or <i>Eucalyptus platyphylla</i> (poplar gum) predominantly on coastal sandplains and alluvia.	34.73	0.87

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See: <http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of: https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community. <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

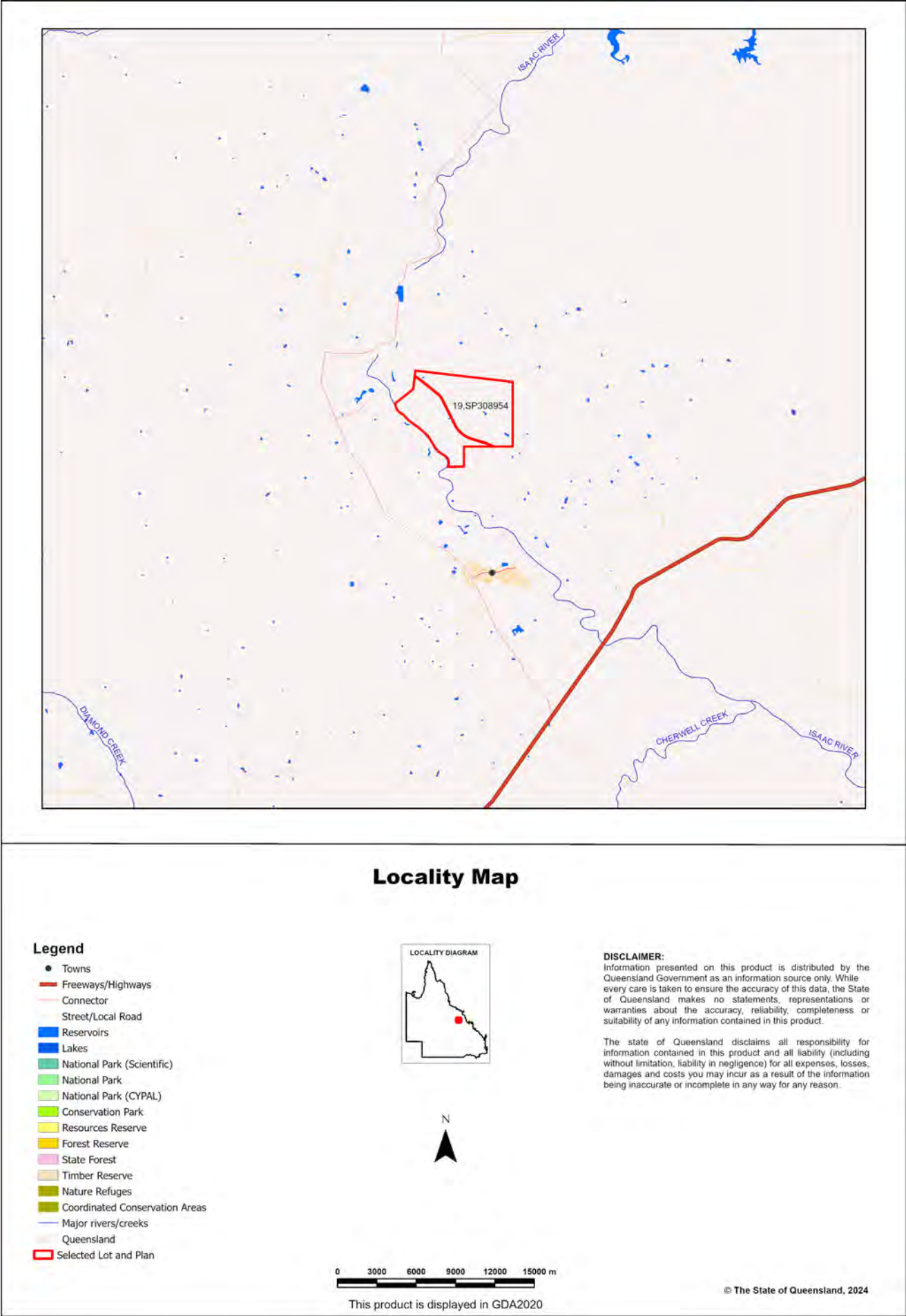
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

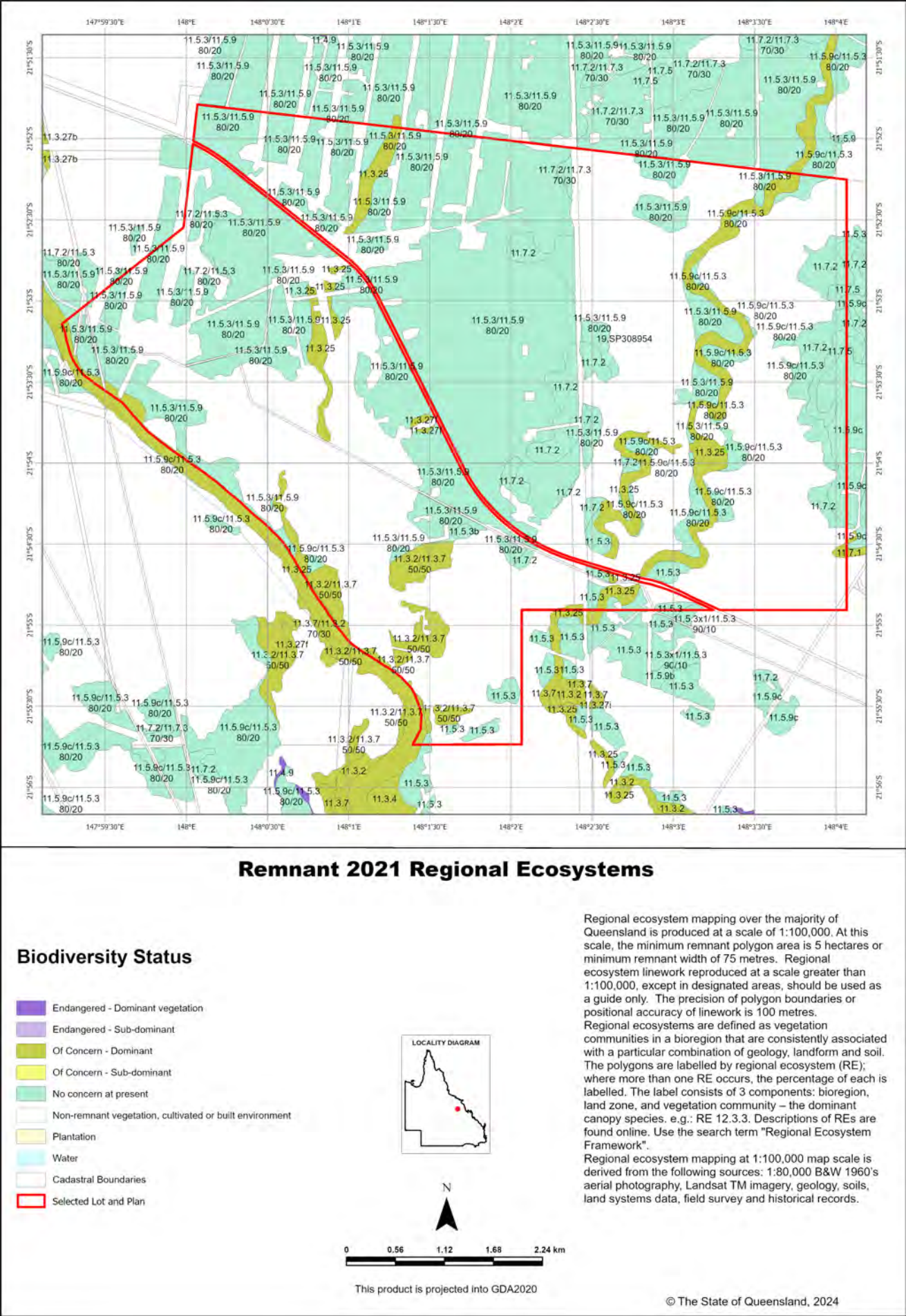
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
11.3.2	Available	Available
11.3.25	Available	Available
11.3.27f	Available	Available
11.3.7	Available	Available
11.5.3	Available	Available
11.5.3b	Not currently available	Not currently available
11.5.3x1	Not currently available	Not currently available
11.5.9	Available	Available
11.5.9c	Available	Not currently available
11.7.1	Available	Available
11.7.2	Available	Available
11.7.3	Available	Available
11.7.5	Available	Available
non-remnant	Not currently available	Not currently available

Maps

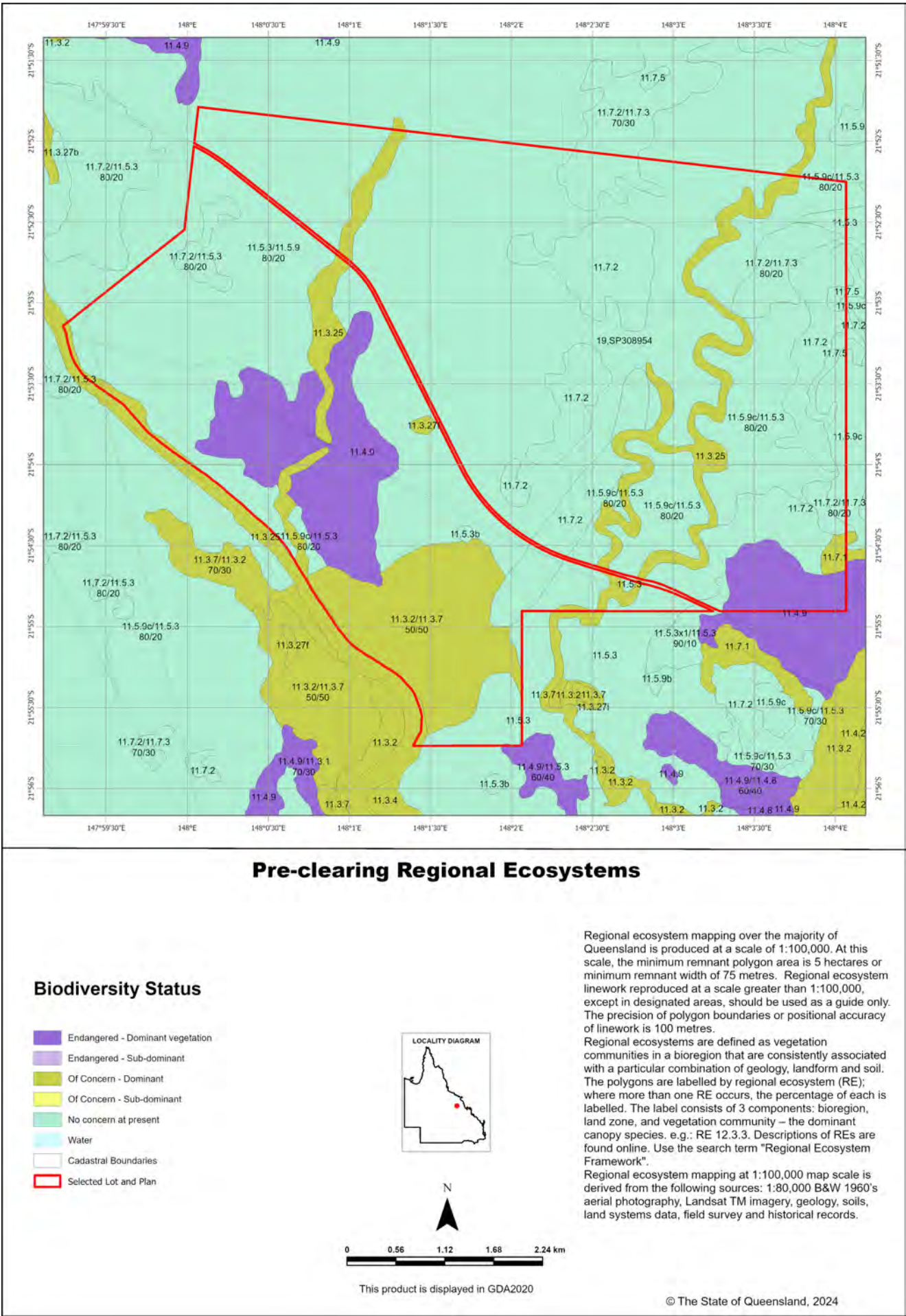
Map 1 - Location



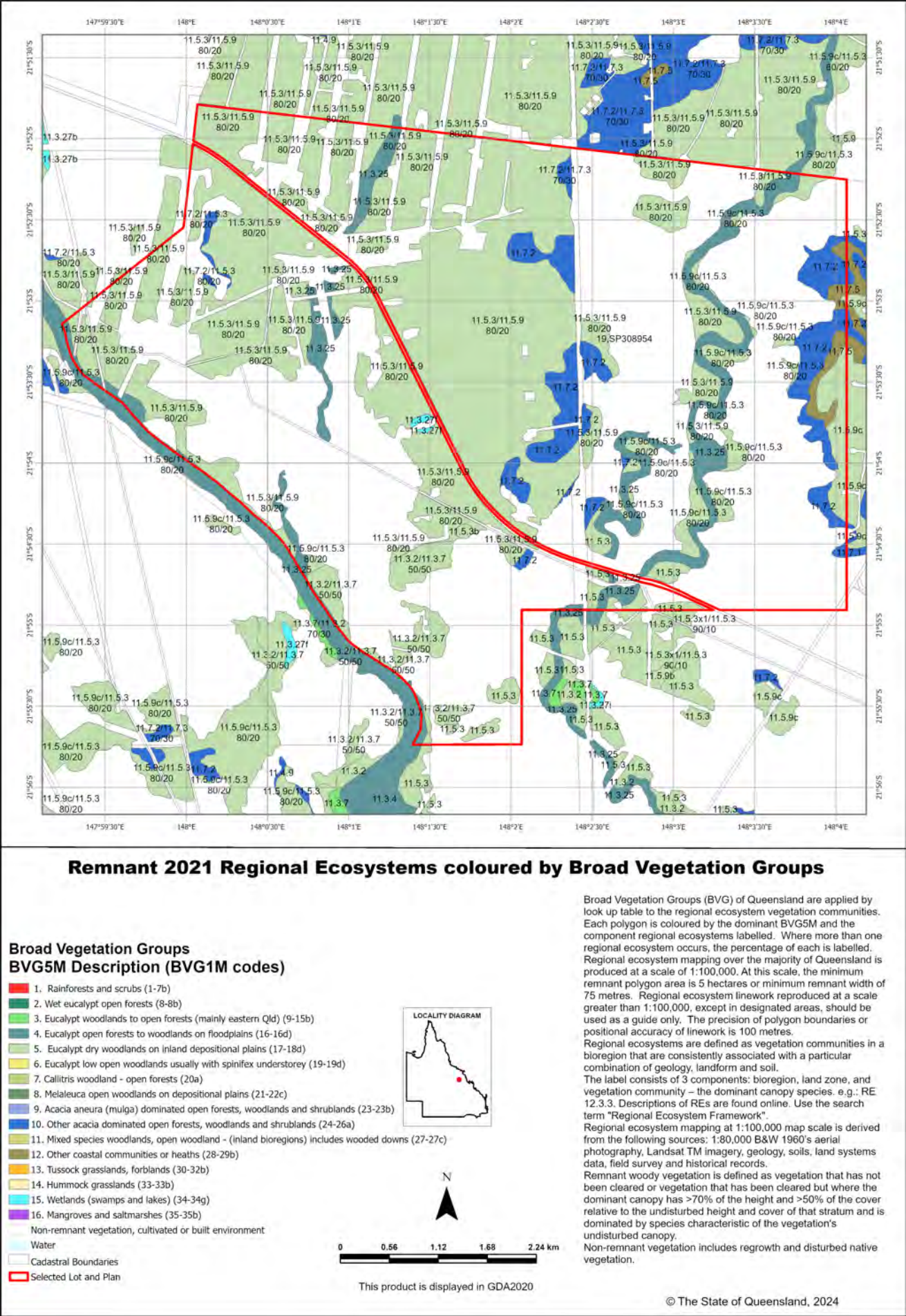
Map 2 - Remnant 2021 regional ecosystems



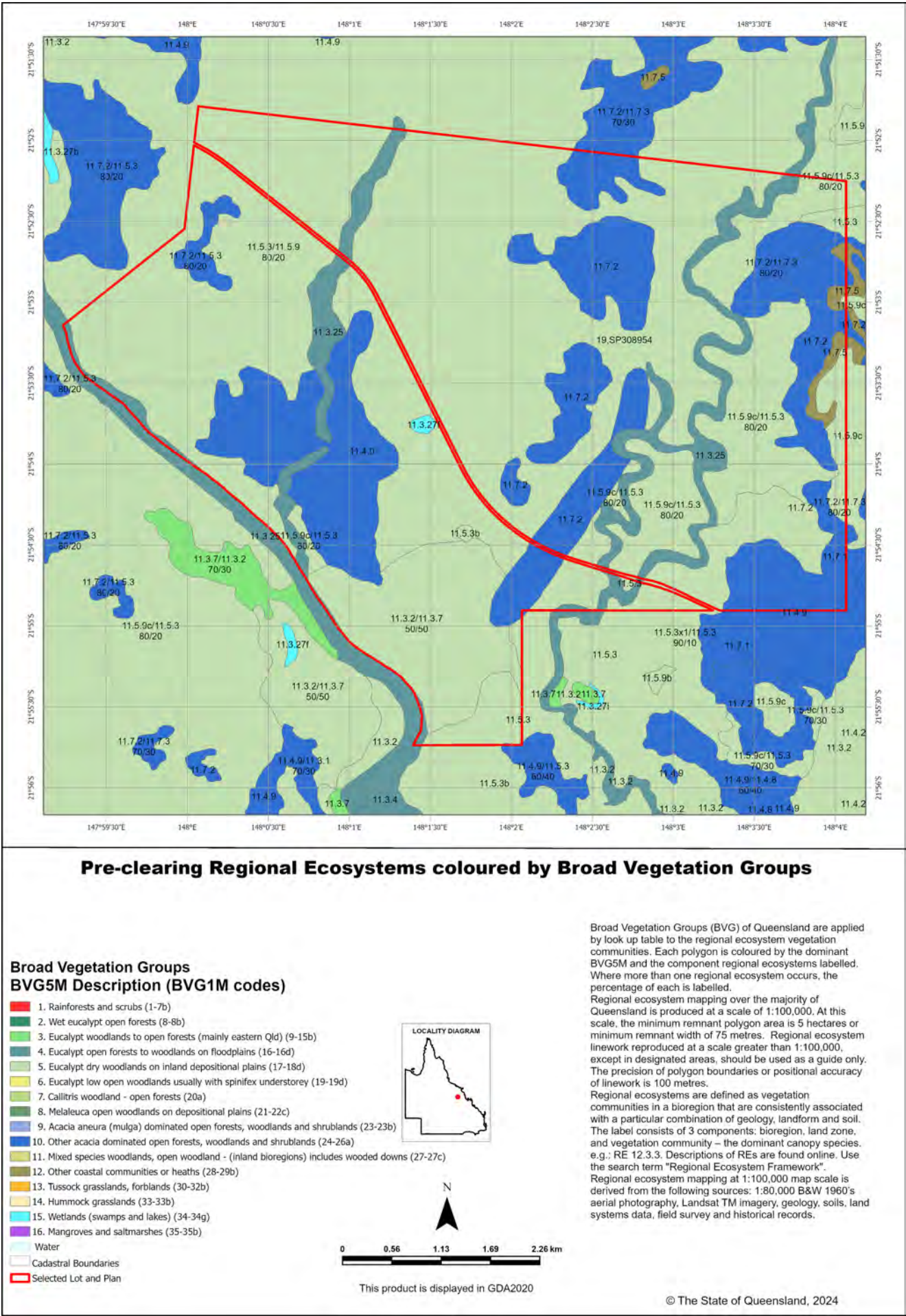
Map 3 - Pre-clearing regional ecosystems



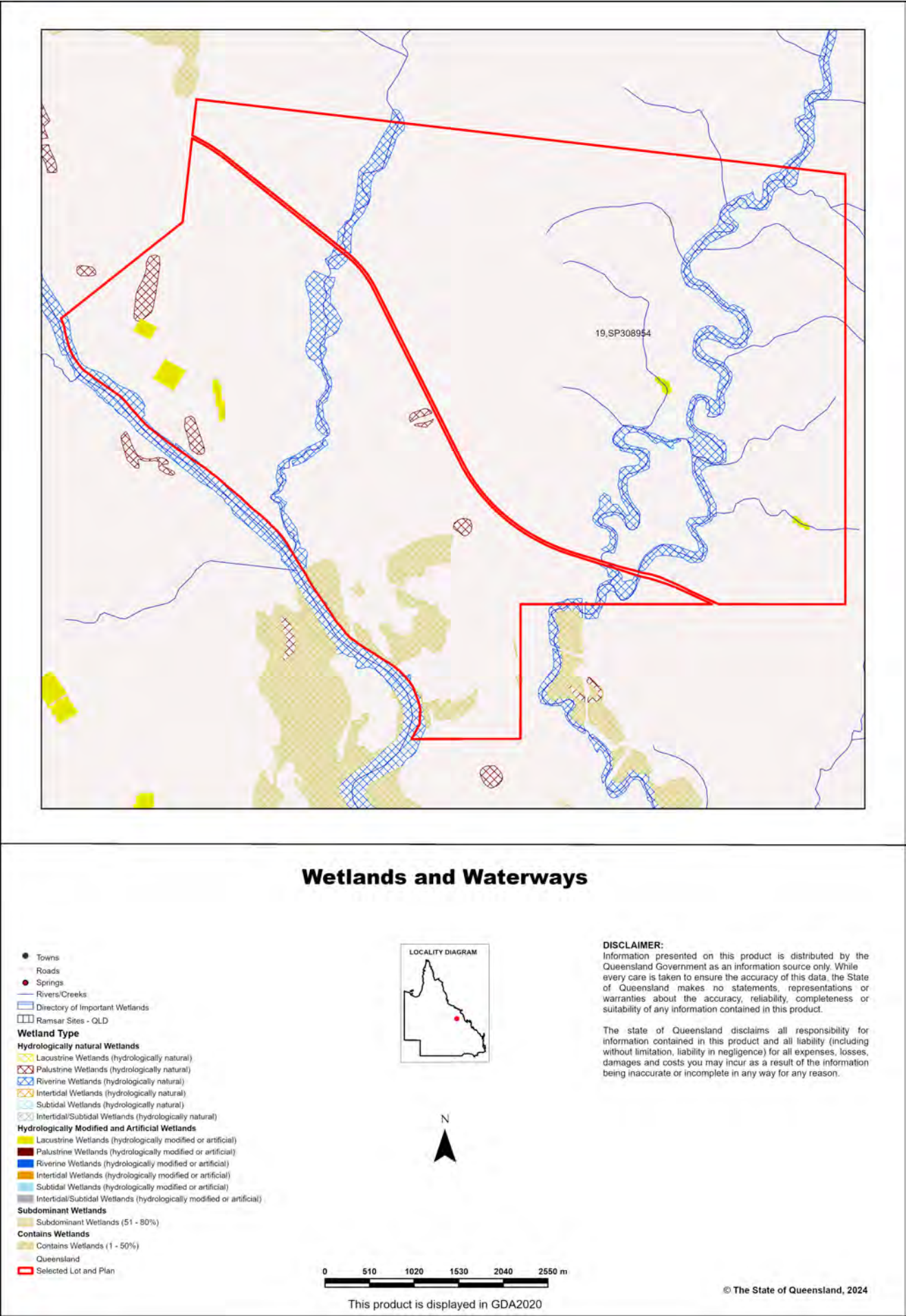
Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial-catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

<https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086>

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/information/spatial/catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 3973.33 Lot: 19 Plan: SP308954
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 19 Plan: SP308954

Table 1. Area of interest details

Size (ha)	
3,973.33	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

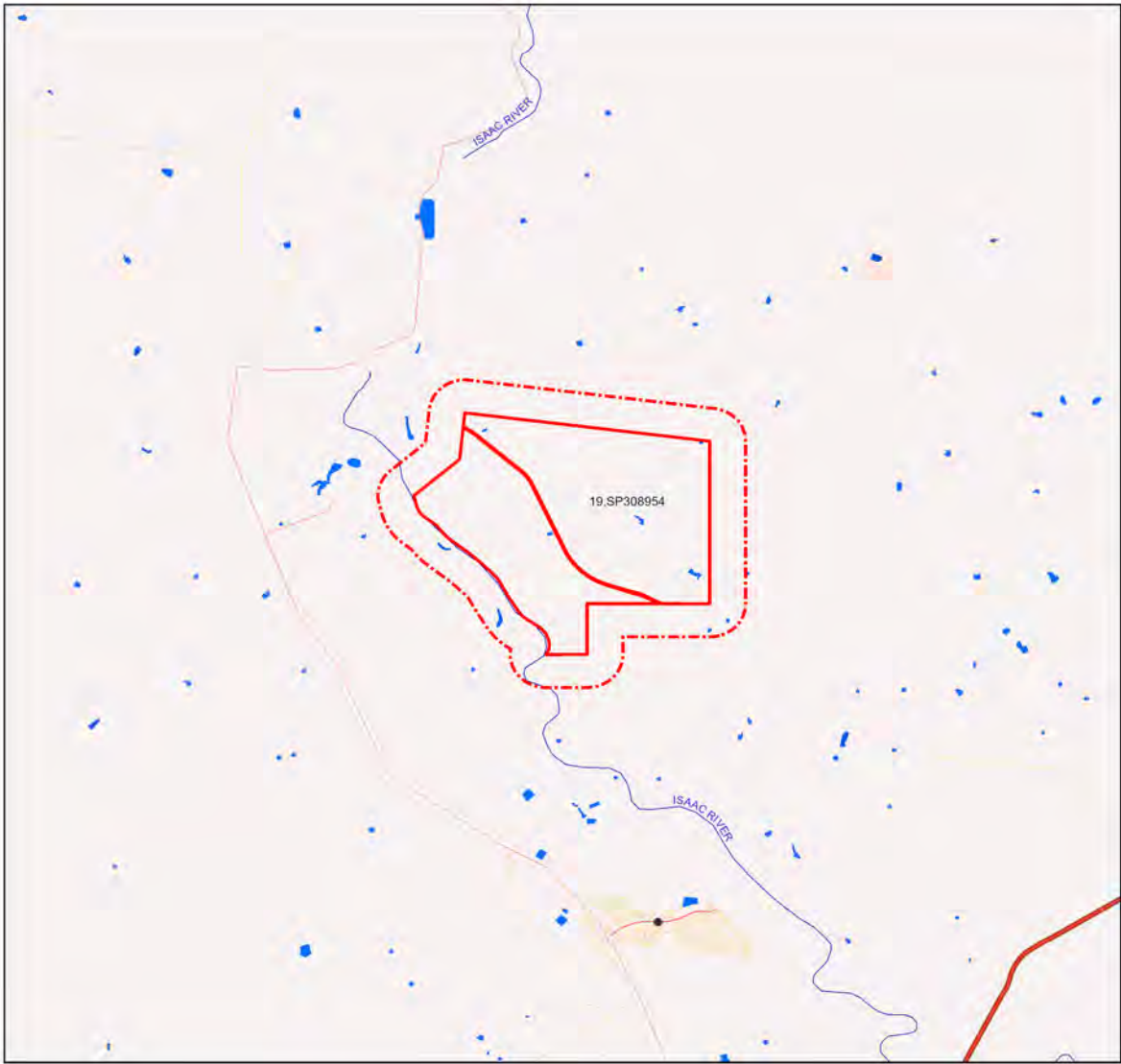
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



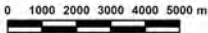
Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - ▭ Selected Lot and Plan
 - ▭ 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
716	Amphibia	Bufonidae	<i>Rhinella marina</i>	cane toad			0	1	7/18/1994
684	Amphibia	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog	C		0	1	11/26/2015
680	Amphibia	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog	C		0	1	11/26/2015
1422	Aves	Acanthizidae	<i>Acanthiza nana</i>	yellow Thornbill	C		0	1	7/18/1994
1423	Aves	Acanthizidae	<i>Acanthiza pusilla</i>	brown Thornbill	C		0	1	7/18/1994
1425	Aves	Acanthizidae	<i>Acanthiza reguloides</i>	buff-rumped Thornbill	C		0	1	7/18/1994
1396	Aves	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone	C		0	3	5/1/2020
1403	Aves	Acanthizidae	<i>Pyrrholaemus sagittatus</i>	speckled warbler	C		0	1	7/18/1994
1371	Aves	Acanthizidae	<i>Smicromis brevirostris</i>	weebill	C		0	2	5/24/2012
1729	Aves	Accipitridae	<i>Accipiter fasciatus</i>	brown goshawk	C		0	1	11/26/2015
1732	Aves	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle	C		0	3	5/1/2020
1721	Aves	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza	C		0	1	7/18/1994
1707	Aves	Accipitridae	<i>Haliastur sphenurus</i>	whistling kite	C		0	1	7/18/1994
1712	Aves	Accipitridae	<i>Lophoictinia isura</i>	square-tailed kite	C		0	1	7/18/1994
1714	Aves	Accipitridae	<i>Milvus migrans</i>	black kite	C		0	1	7/18/1994
1305	Aves	Acrocephalidae	<i>Acrocephalus australis</i>	Australian reed-warbler	C		0	1	5/24/2012
1766	Aves	Alcedinidae	<i>Dacelo leachii</i>	blue-winged kookaburra	C		0	1	5/1/2020
1767	Aves	Alcedinidae	<i>Dacelo novaeguineae</i>	laughing kookaburra	C		0	1	7/18/1994
1760	Aves	Alcedinidae	<i>Todiramphus macleayi</i>	forest kingfisher	C		0	1	7/18/1994
1993	Aves	Anatidae	<i>Anas gracilis</i>	grey teal	C		0	1	7/18/1994
1998	Aves	Anatidae	<i>Anas superciliosa</i>	Pacific black duck	C		0	1	7/18/1994
1999	Aves	Anatidae	<i>Aythya australis</i>	hardhead	C		0	2	5/24/2012
2005	Aves	Anatidae	<i>Cygnus atratus</i>	black swan	C		0	1	5/24/2012

1978	Aves	Anatidae	<i>Dendrocygna eytoni</i>	plumed whistling-duck	C		0	1	7/18/1994
1279	Aves	Anhinga	<i>Anhinga novaehollandiae</i>	Australasian darter	C		0	1	5/24/2012
1829	Aves	Ardeidae	<i>Ardea alba modesta</i>	eastern great egret	C		0	1	5/24/2012
1832	Aves	Ardeidae	<i>Ardea pacifica</i>	white-necked heron	C		0	2	5/24/2012
1826	Aves	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron	C		0	2	5/24/2012
1659	Aves	Artamidae	<i>Artamus cyanopterus</i>	dusky woodswallow	C		0	1	7/18/1994
1654	Aves	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird	C		0	1	7/18/1994
1656	Aves	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird	C		0	2	5/1/2020
1644	Aves	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie	C		0	1	7/18/1994
1645	Aves	Artamidae	<i>Strepera graculina</i>	pied currawong	C		0	3	5/1/2020
1191	Aves	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo	C		0	1	7/18/1994
1193	Aves	Cacatuidae	<i>Eolophus roseicapilla</i>	galah	C		0	1	7/18/1994
1173	Aves	Cacatuidae	<i>Nymphicus hollandicus</i>	cockatiel	C		0	1	7/18/1994
1636	Aves	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	C		0	1	7/18/1994
1637	Aves	Campephagidae	<i>Coracina papuensis</i>	white-bellied cuckoo-shrike	C		0	1	7/18/1994
1089	Aves	Casuariidae	<i>Dromaius novaehollandiae</i>	emu	C		0	1	7/18/1994
1933	Aves	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)	C		0	1	7/18/1994
1628	Aves	Climacteridae	<i>Climacteris picumnus</i>	brown treecreeper	C		0	1	7/18/1994
1810	Aves	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove	C		0	1	7/18/1994
18323	Aves	Columbidae	<i>Geopelia placida</i>	peaceful dove	C		0	2	11/26/2015
1785	Aves	Columbidae	<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	V	V	0	4	11/30/2014
1793	Aves	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon	C		0	2	5/1/2020
1795	Aves	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing	C		0	1	7/18/1994
1605	Aves	Corcoracidae	<i>Struthidea cinerea</i>	apostlebird	C		0	1	7/18/1994

1608	Aves	Corvidae	<i>Corvus coronoides</i>	Australian raven	C		0	1	7/18/1994
1609	Aves	Corvidae	<i>Corvus orru</i>	Torresian crow	C		0	3	5/24/2012
1751	Aves	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal	C		0	2	11/26/2015
1745	Aves	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo	C		0	1	7/18/1994
1746	Aves	Cuculidae	<i>Chalcites minutillus</i>	little bronze-cuckoo	C		0	1	11/26/2015
1738	Aves	Cuculidae	<i>Eudynamys orientalis</i>	eastern koel	C		0	1	11/26/2015
1611	Aves	Dicaeidae	<i>Dicaeum hirundinaceum</i>	mistletoebird	C		0	2	5/1/2020
1342	Aves	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch	C		0	2	5/24/2012
1343	Aves	Estrildidae	<i>Taeniopygia guttata</i>	zebra finch	C		0	1	7/18/1994
1716	Aves	Falconidae	<i>Falco berigora</i>	brown falcon	C		0	1	7/18/1994
1704	Aves	Falconidae	<i>Falco cenchroides</i>	nankeen kestrel	C		0	1	7/18/1994
1678	Aves	Gruidae	<i>Antigone rubicunda</i>	brolga	C		0	2	11/26/2015
18459	Aves	Maluridae	<i>Malurus assimilis</i>	purple-backed fairy-wren	C		0	1	7/18/1994
1558	Aves	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren	C		0	1	7/18/1994
1539	Aves	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater	C		0	1	7/18/1994
1496	Aves	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater	C		0	2	5/24/2012
1497	Aves	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater	C		0	1	7/18/1994
1499	Aves	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner	C		0	1	7/18/1994
1500	Aves	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner	C		0	1	5/1/2020
1507	Aves	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater	C		0	2	11/26/2015
1493	Aves	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird	C		0	1	7/18/1994
1494	Aves	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird	C		0	1	7/18/1994
1471	Aves	Meliphagidae	<i>Plectorhyncha lanceolata</i>	striped honeyeater	C		0	1	7/18/1994
1764	Aves	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater	C		0	2	11/26/2015

1589	Aves	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark	C		0	1	7/18/1994
1600	Aves	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher	C		0	1	7/18/1994
1586	Aves	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher	C		0	2	5/1/2020
1455	Aves	Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian pipit	C		0	1	7/18/1994
1453	Aves	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella	C		0	1	7/18/1994
1680	Aves	Otididae	<i>Ardeotis australis</i>	Australian bustard	C		0	1	7/18/1994
1449	Aves	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush	C		0	2	5/24/2012
1437	Aves	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler	C		0	1	7/18/1994
1392	Aves	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote	C		0	2	5/24/2012
1284	Aves	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican	C		0	1	7/18/1994
1339	Aves	Petroicidae	<i>Microeca fascians</i>	jacky winter	C		0	1	7/18/1994
1261	Aves	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant	C		0	1	5/24/2012
1263	Aves	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant	C		0	1	5/24/2012
1687	Aves	Phasianidae	<i>Synoicus ypsilophorus</i>	brown quail	C		0	1	7/18/1994
1955	Aves	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth	C		0	2	11/26/2015
1249	Aves	Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian grebe	C		0	1	7/18/1994
1318	Aves	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler	C		0	1	7/18/1994
1182	Aves	Psittaculidae	<i>Aprosmictus erythropterus</i>	red-winged parrot	C		0	3	5/1/2020
1151	Aves	Psittaculidae	<i>Melopsittacus undulatus</i>	budgerigar	C		0	1	7/18/1994
1136	Aves	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella	C		0	2	11/26/2015
1125	Aves	Psittaculidae	<i>Trichoglossus moluccanus</i>	rainbow lorikeet	C		0	2	11/26/2015
1160	Aves	Ptilonorhynchidae	<i>Chlamydera maculata</i>	spotted bowerbird	C		0	1	7/18/1994
1686	Aves	Rallidae	<i>Fulica atra</i>	Eurasian coot	C		0	1	5/24/2012
1662	Aves	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen	C		0	1	5/24/2012

1575	Aves	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail	C		0	3	5/1/2020
1576	Aves	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail	C		0	1	7/18/1994
1102	Aves	Strigidae	<i>Ninox boobook</i>	southern boobook	C		0	1	7/18/1994
1822	Aves	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill	C		0	1	7/18/1994
1276	Aves	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye	C		0	1	7/18/1994
1084	Mammalia	Bovidae	<i>Bos taurus</i>	European cattle			0	1	7/18/1994
1068	Mammalia	Canidae	<i>Canis familiaris (dingo)</i>	dingo			0	1	7/18/1994
1071	Mammalia	Canidae	<i>Vulpes vulpes</i>	red fox			0	1	7/18/1994
1006	Mammalia	Emballonuridae	<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tail bat	C		0	1	7/18/1994
834	Mammalia	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit			0	1	7/18/1994
901	Mammalia	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo	C		0	1	7/18/1994
998	Mammalia	Molossidae	<i>Mormopterus lumsdenae</i>	northern free-tailed bat	C		0	1	7/18/1994
859	Mammalia	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum	C		0	1	7/18/1994
2455	Mammalia	Pseudocheiridae	<i>Petauroides volans volans</i>	southern greater glider	E	E	0	2	11/26/2015
1080	Mammalia	Suidae	<i>Sus scrofa</i>	pig			0	1	7/18/1994
838	Mammalia	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna	SL		0	2	5/24/2012
972	Mammalia	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat	C		0	1	7/18/1994
961	Mammalia	Vespertilionidae	<i>Chalinolobus nigrogriseus</i>	hoary wattled bat	C		0	1	7/18/1994
948	Mammalia	Vespertilionidae	<i>Chalinolobus picatus</i>	little pied bat	C		0	2	5/24/2012
512	Reptilia	Colubridae	<i>Dendrelaphis punctulatus</i>	green tree snake	C		0	1	7/18/1994
18294	Reptilia	Diplodactylidae	<i>Oedura monilis sensu lato</i>	ocellated velvet gecko	C		0	1	7/18/1994
483	Reptilia	Elapidae	<i>Denisonia maculata</i>	ornamental snake	V	V	0	1	12/31/2003
454	Reptilia	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake	C		0	1	11/26/2015
420	Reptilia	Gekkonidae	<i>Gehyra dubia</i>	dubious dtella	C		0	6	8/4/2020

34649	Reptilia	Scincidae	<i>Carlia rubigo</i>	orange-flanked rainbow skink	C		0	1	5/24/2012
283	Reptilia	Scincidae	<i>Cryptoblepharus pannosus</i>	ragged snake-eyed skink	C		0	1	7/18/1994
240	Reptilia	Scincidae	<i>Ctenotus spaldingi</i>	straight-browed ctenotus	C		0	2	5/24/2012
134	Reptilia	Scincidae	<i>Morethia boulengeri</i>	south-eastern morethia skink	C		0	1	7/18/1994
138	Reptilia	Scincidae	<i>Morethia taeniopleura</i>	fire-tailed skink	C		0	1	5/24/2012

Table 3. Plants recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
17407	Equisetopsida	Acanthaceae	<i>Dipteracanthus australasicus</i> subsp. <i>corynothecus</i>		C		1	1	6/1/2007

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

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Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 114 Plan: SP259137

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

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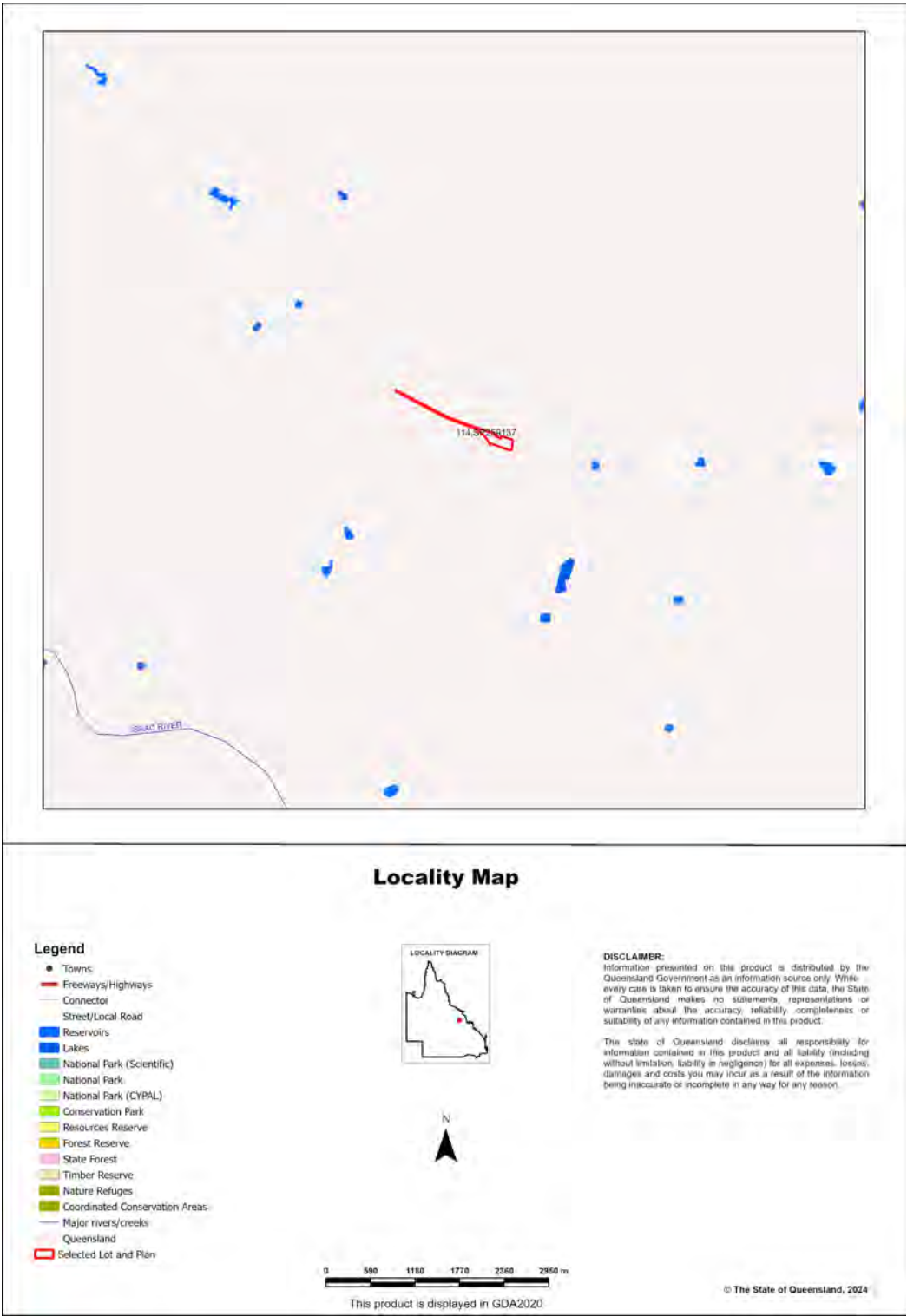
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 114 Plan: SP259137, with area 6.9 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004* ;
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008*;
- *Threatened wildlife under the Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	0 ha	0.0%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	0 ha	0.0%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0.19 ha	2.8%
8d Regulated Vegetation - Essential habitat	0 ha	0.0%
8e Regulated Vegetation - intersecting a watercourse	0.2 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Not applicable

7b. Special least concern animals

Not applicable

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

(No results)

Special least concern animal species records

(No results)

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

**Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Not applicable

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8554

8d. Regulated Vegetation - Essential habitat

Not applicable

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Not applicable

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

MSES - Offsets

9a. Legally secured offset areas - offset register areas

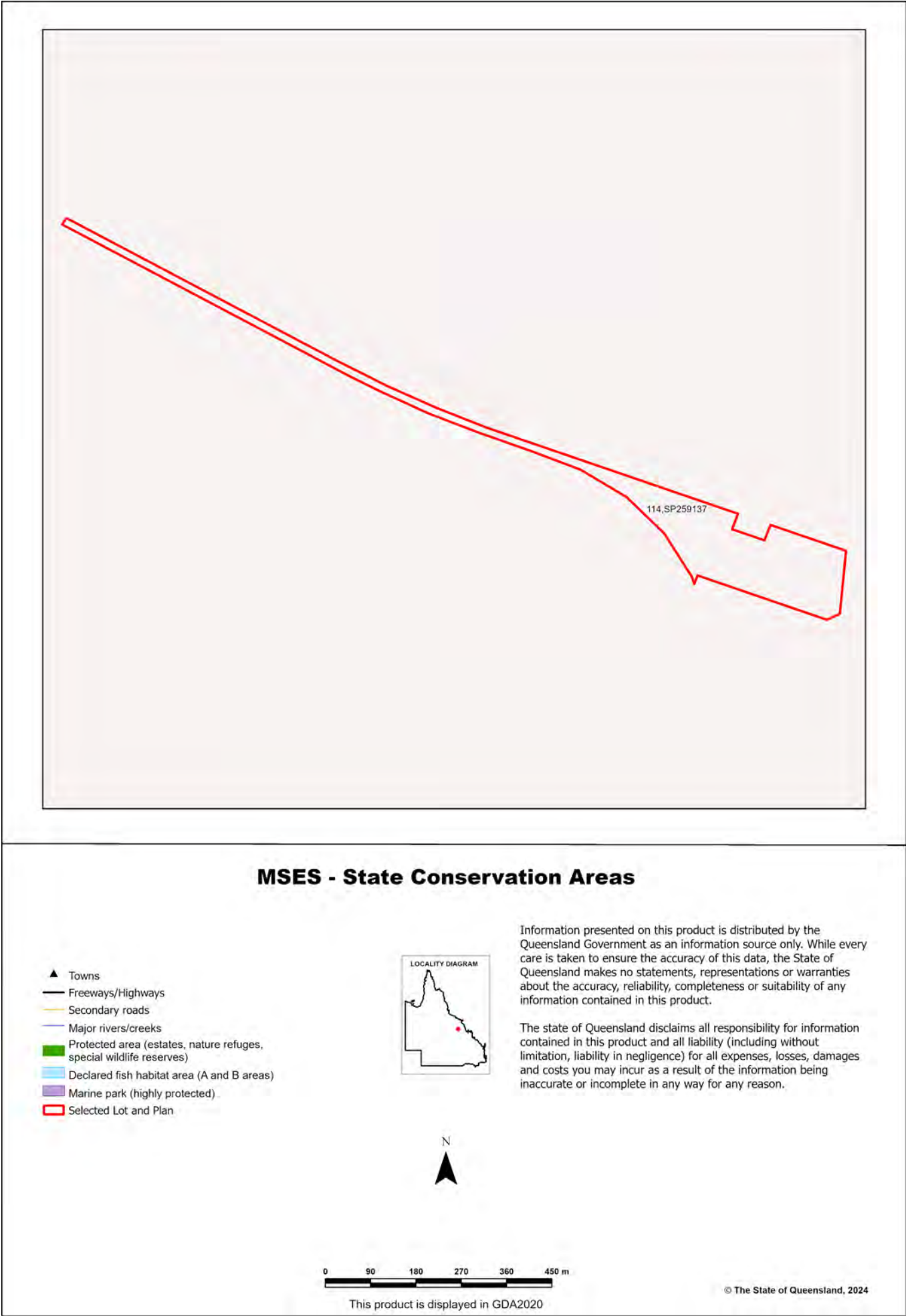
(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

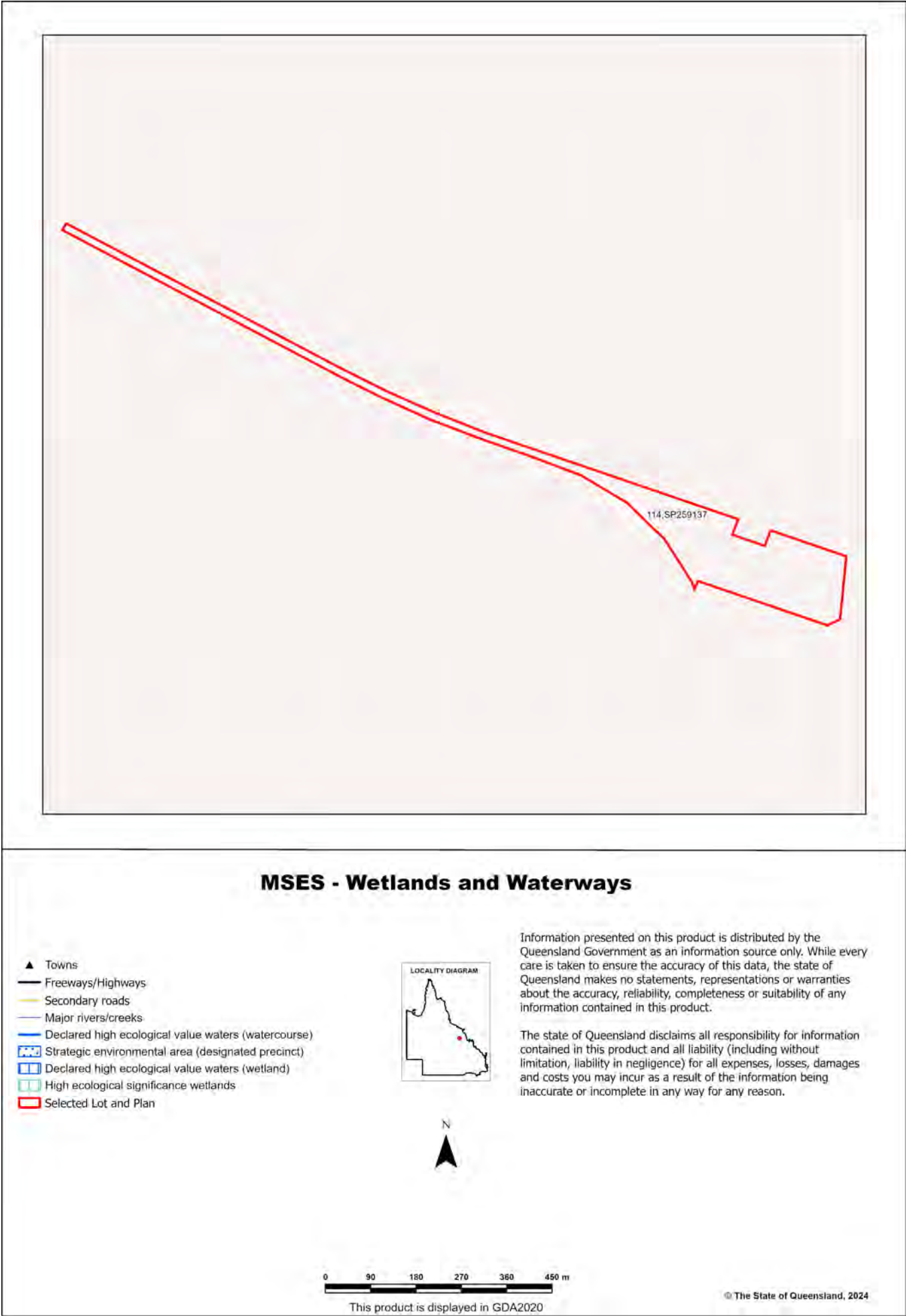
(No results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

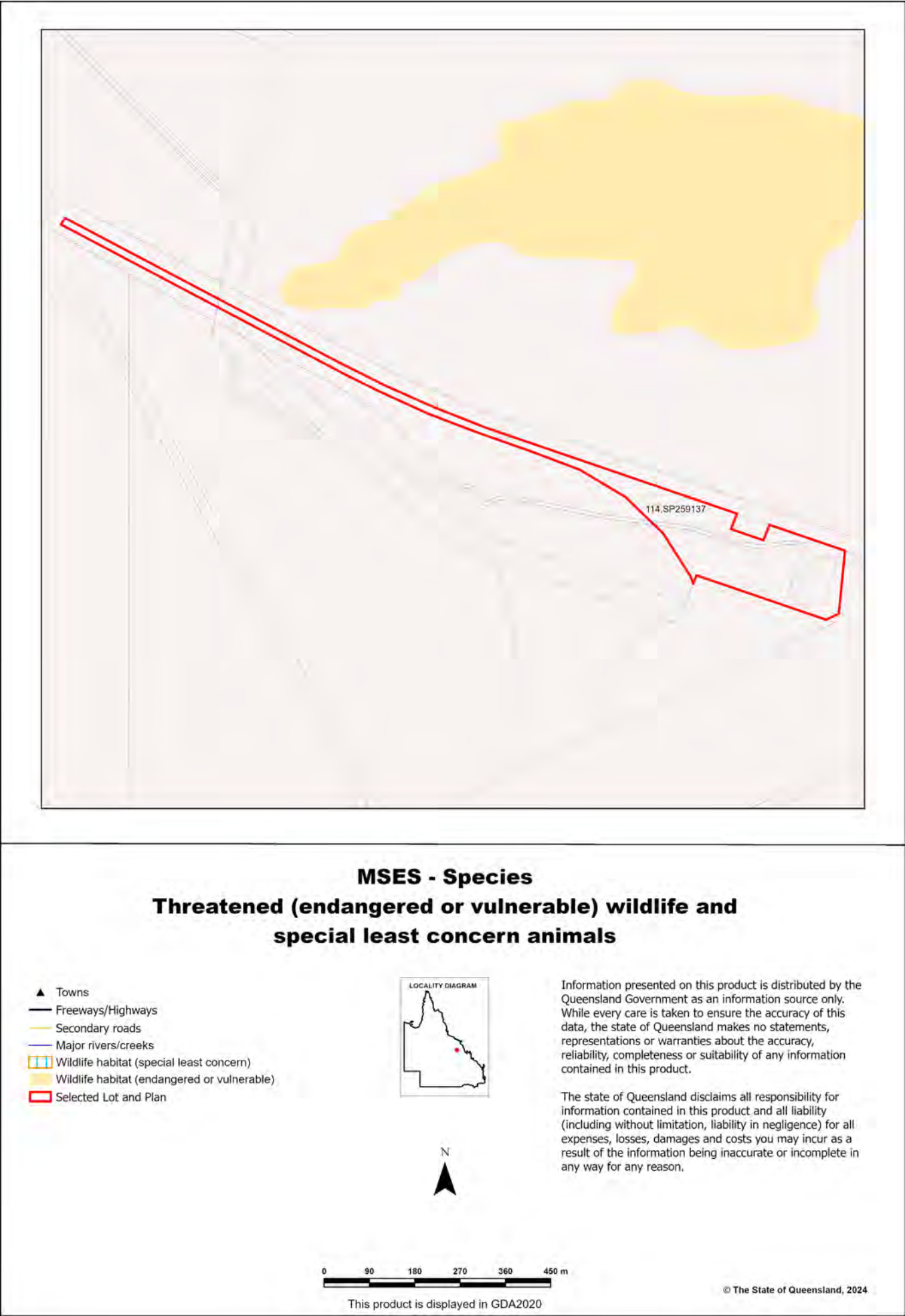
Map 1 - MSES - State Conservation Areas



Map 2 - MSES - Wetlands and Waterways



Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



Map 3b - MSES - Species - Koala habitat area (SEQ)



MSES - Species Koala habitat area (SEQ)

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Selected Lot and Plan



The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

© The State of Queensland, 2024

0 86 172 258 344 430 m

This product is displayed in GDA2020

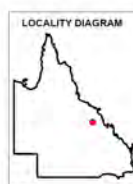
While every care is taken to ensure the accuracy of this product, the Department of Environment, Science and Innovation acting on behalf of the State of Queensland makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims 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 data being inaccurate or incomplete in any way and for any reason. Due to varying sources of data, spatial locations may not coincide when overlaid.

The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area-locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)

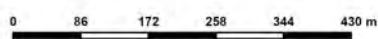
**MSES - Wildlife habitat (sea turtle nesting areas)**

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Wildlife habitat (sea turtle nesting areas)
- ▭ Selected Lot and Plan

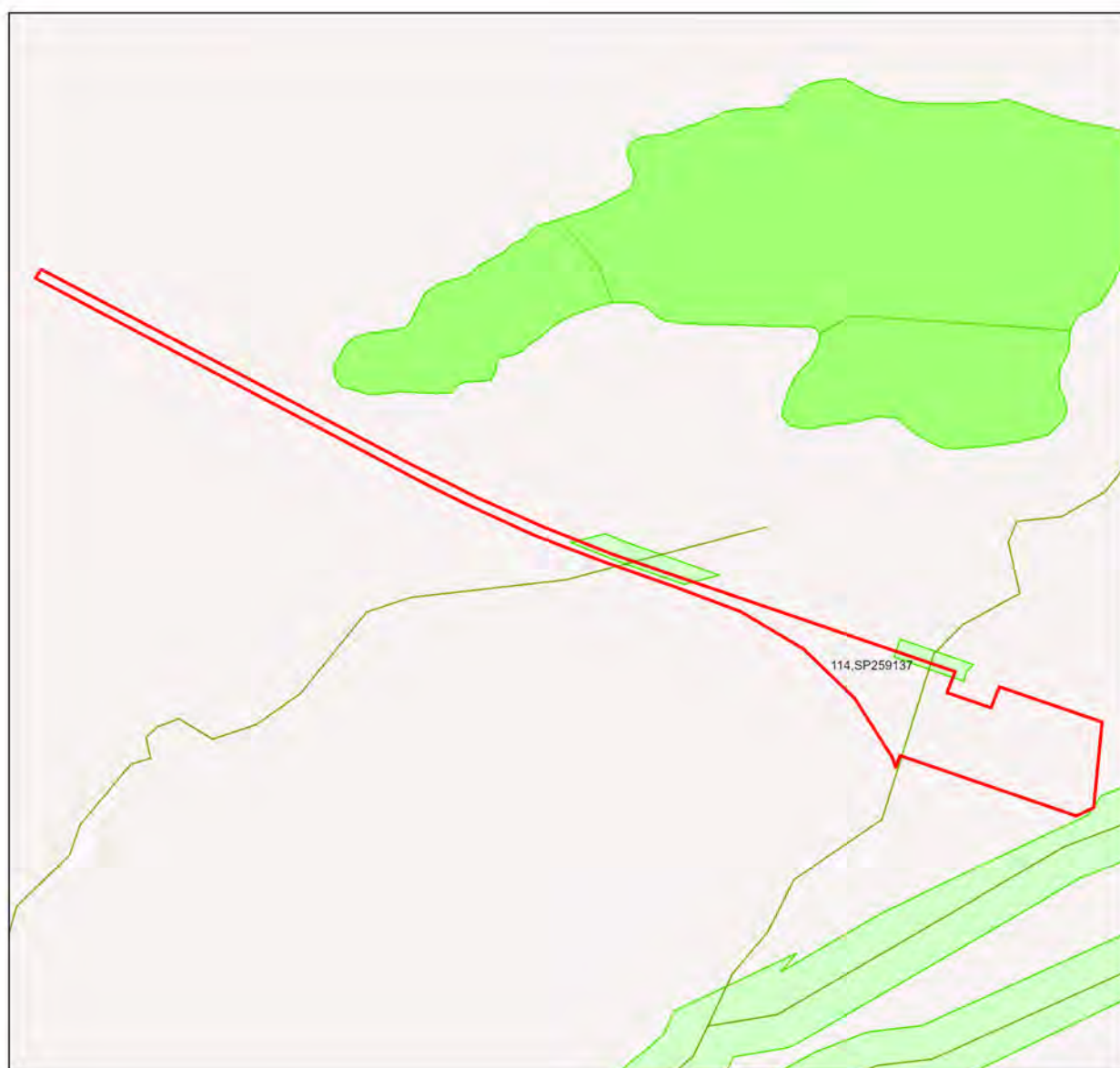


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MSES mapping of sea turtle nesting areas identifies beaches where the recorded number of turtle nests are over 1% of the turtle species or genetic stock. The linework is also deliberately extended along nearby rocky coastlines and headlands to recognise that significant numbers of nesting adults and hatchlings can become disoriented by light pollution from development on rocky coastlines and headlands while navigating offshore from nesting beaches.

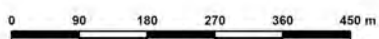
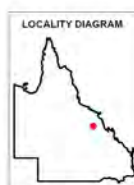


Map 4 - MSES - Regulated Vegetation



MSES - Regulated Vegetation

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Regulated vegetation (intersecting a watercourse)
- Regulated vegetation (100m from wetland)
- Regulated vegetation (category B - endangered or of concern)
- Regulated vegetation (category C - endangered or of concern)
- Regulated vegetation (category R - GBR riverine)
- Regulated vegetation (essential habitat)
- Selected Lot and Plan

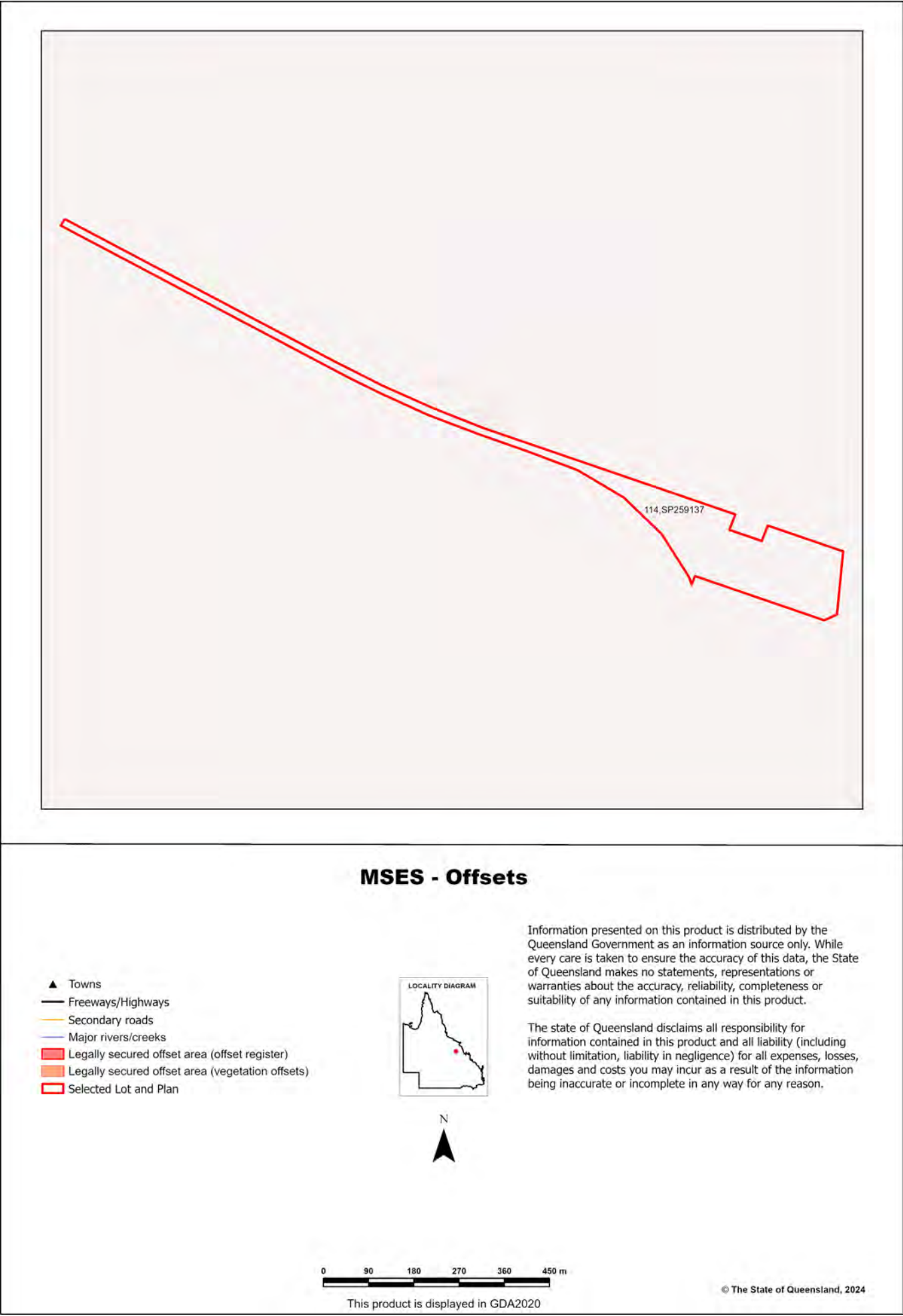


This product is displayed in GDA2020

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Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 114 Plan: SP259137

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 2020). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 114 Plan: SP259137, with area 6.9 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.00	0.00
Of concern	0.00	0.00
No concern at present	0.00	0.00
Total remnant vegetation	0.00	0.00

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
non-remnant	None	None	6.90	100.06

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	6.90	100.06

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See: <http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of: https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community. <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

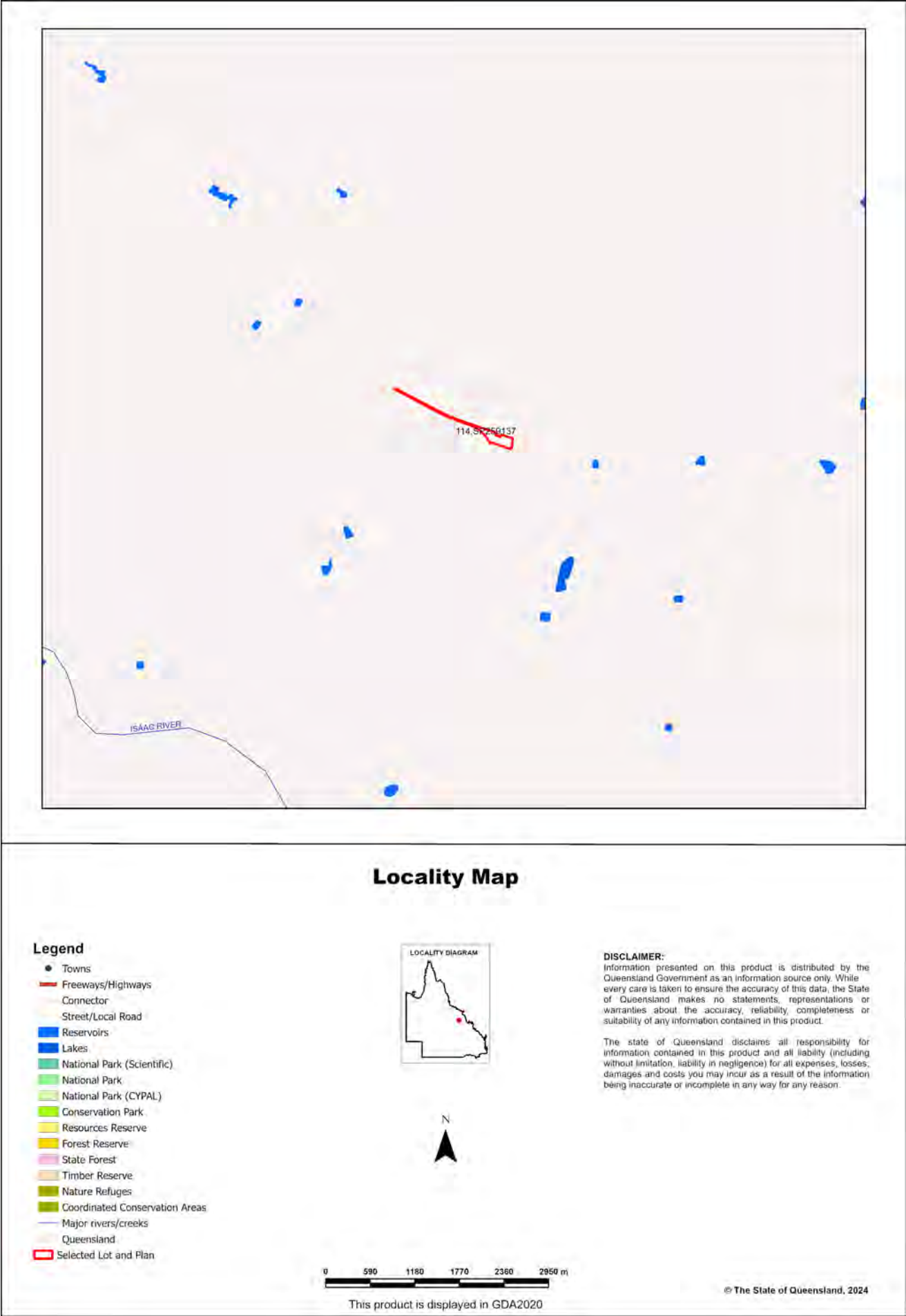
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

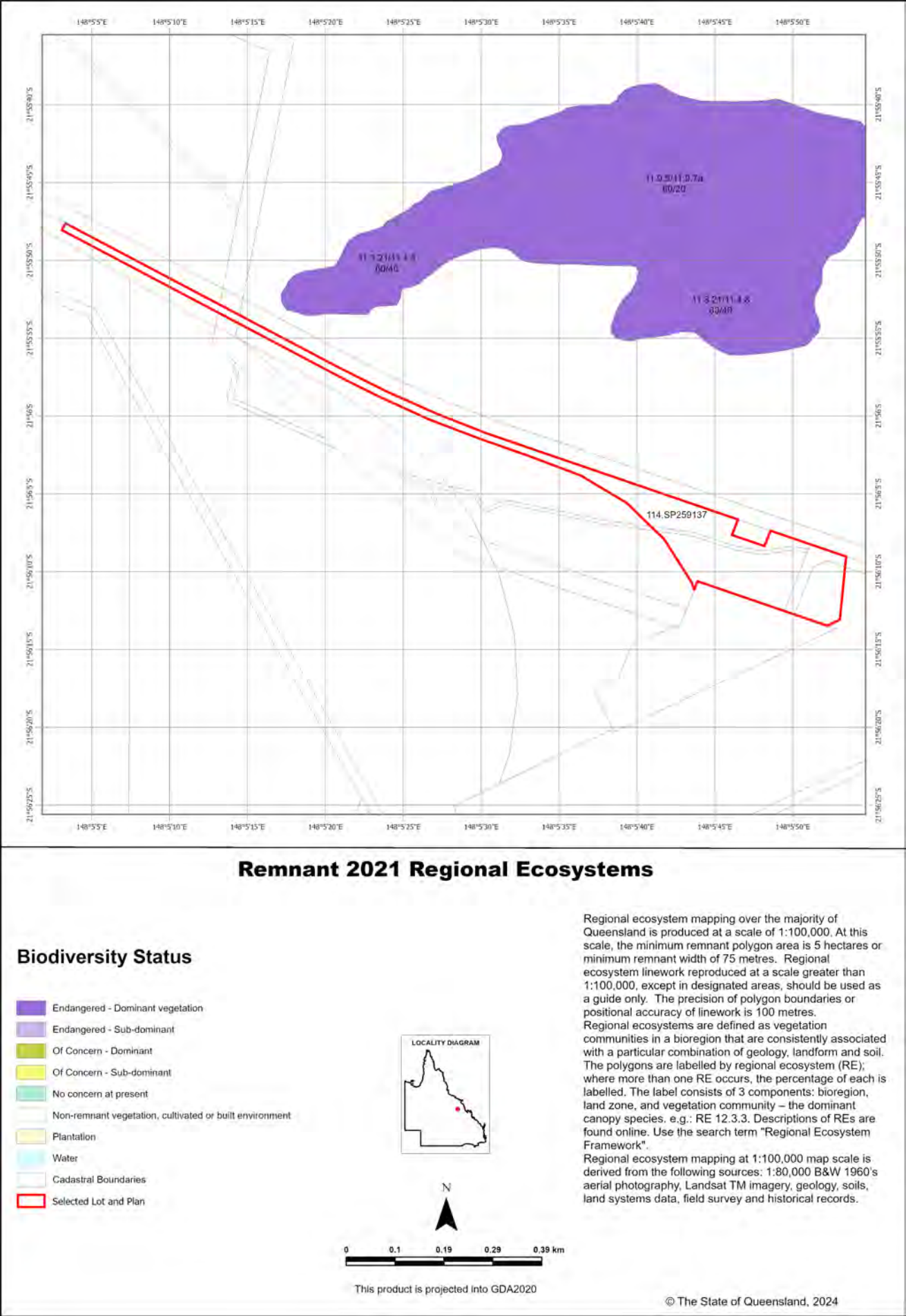
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
non-remnant	Not currently available	Not currently available

Maps

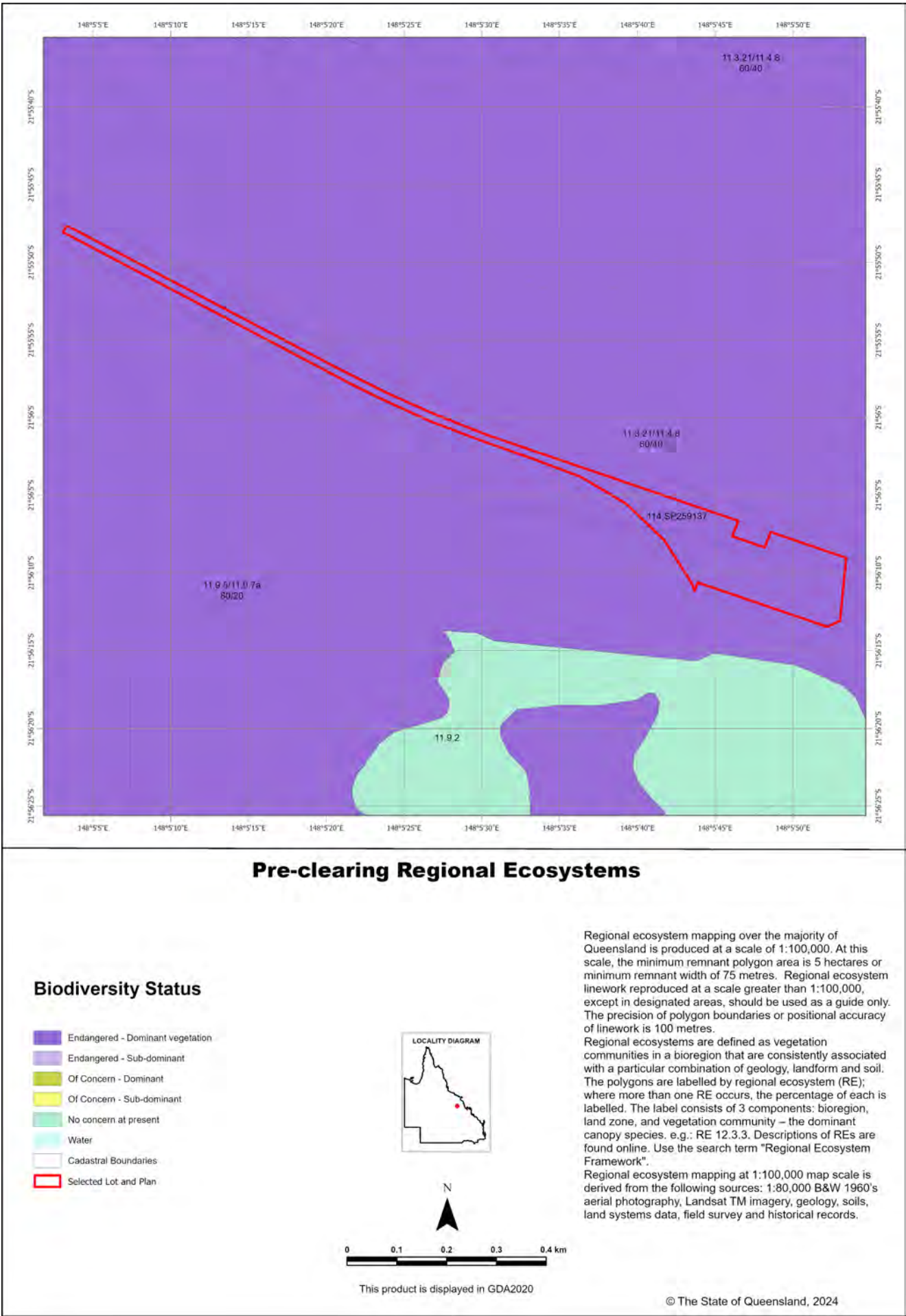
Map 1 - Location



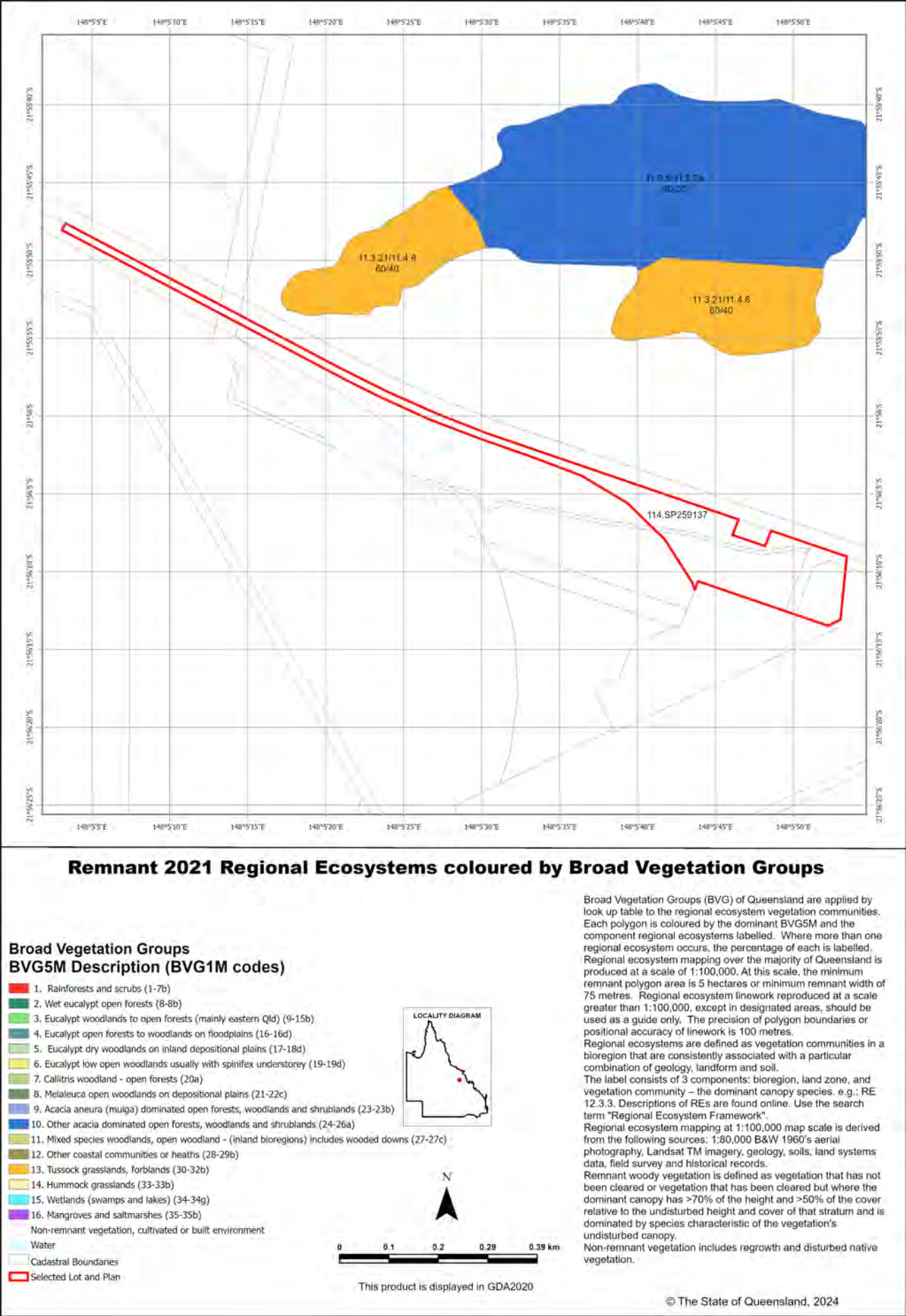
Map 2 - Remnant 2021 regional ecosystems



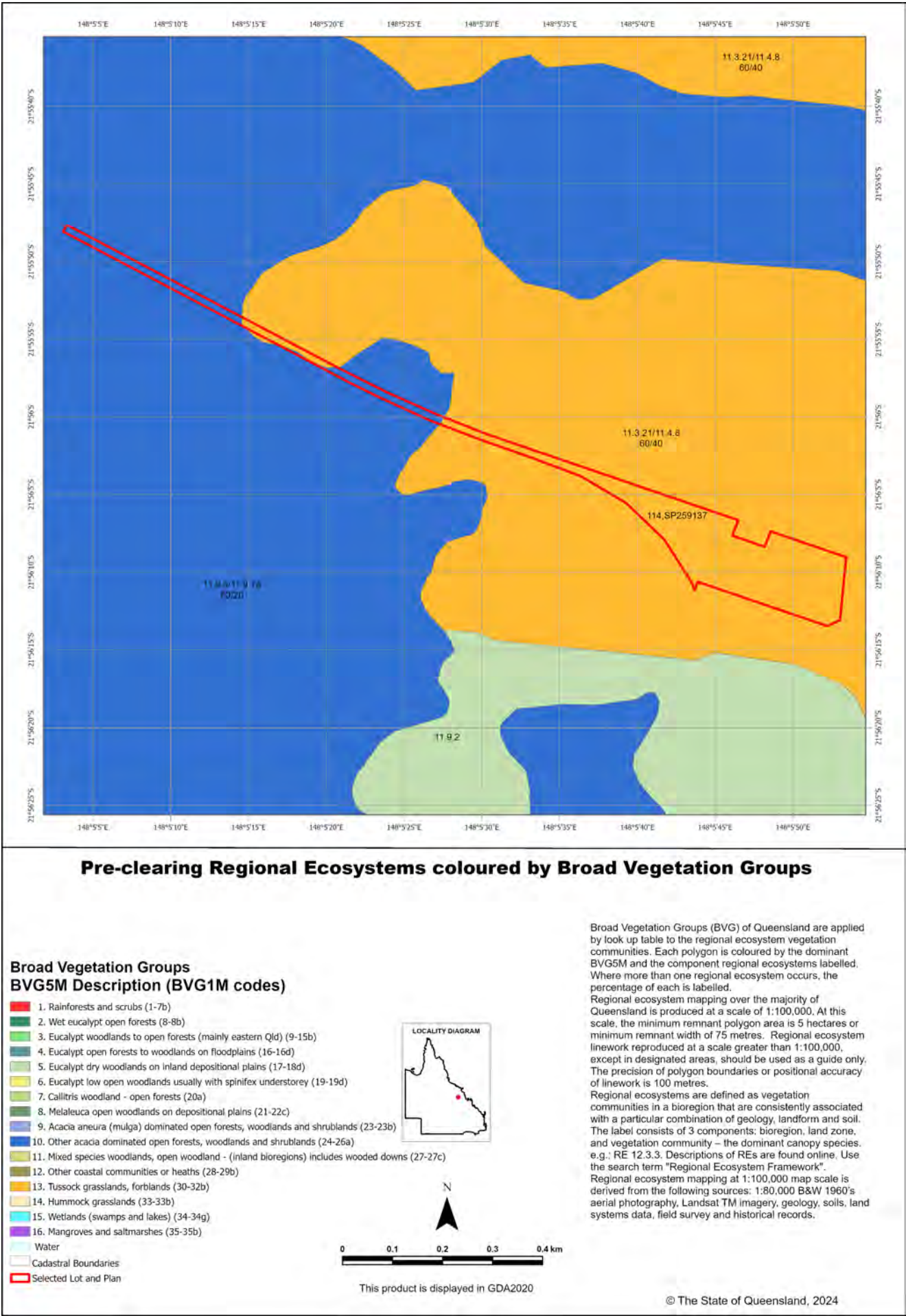
Map 3 - Pre-clearing regional ecosystems



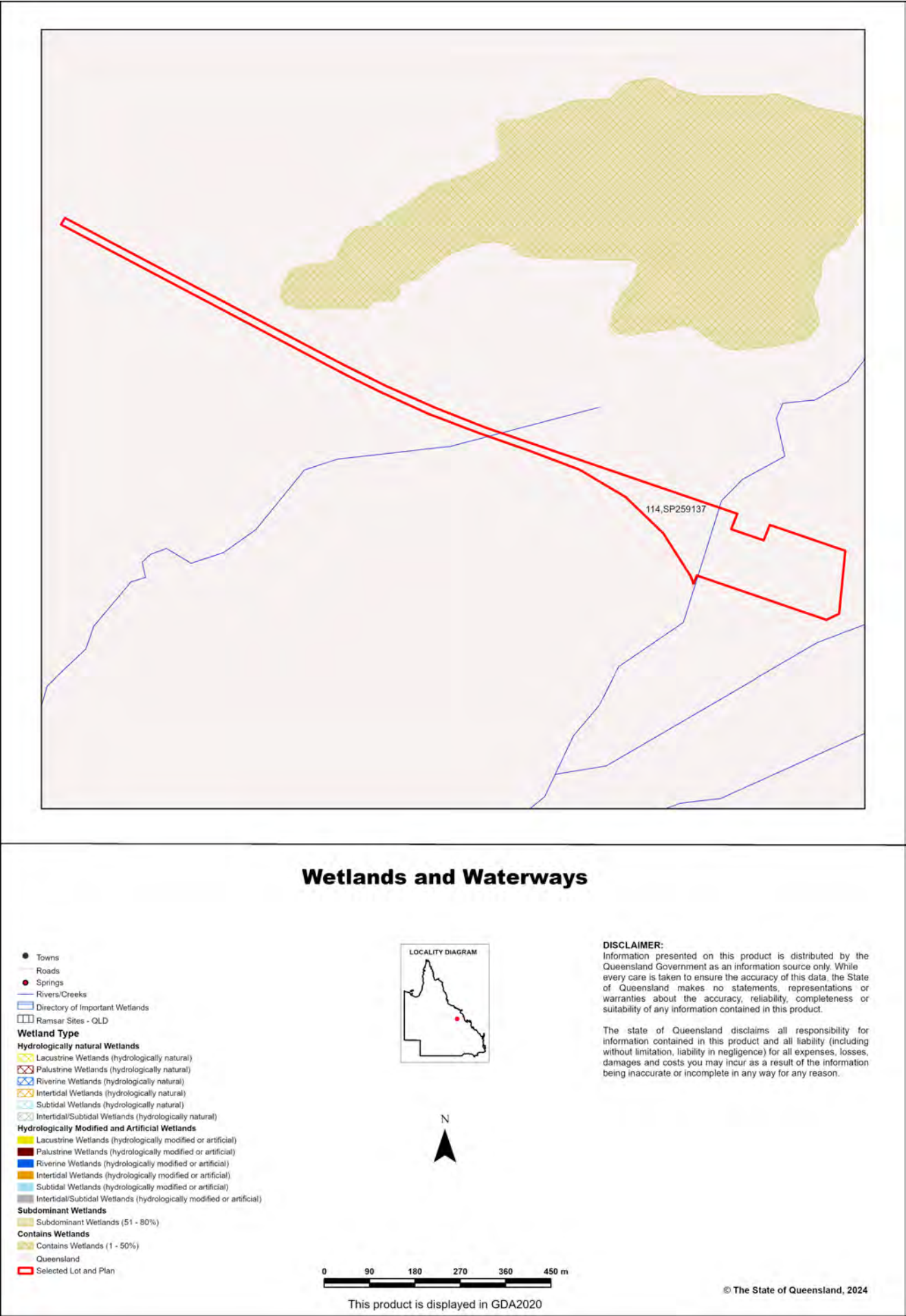
Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial-catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

<https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086>

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/information/spatial-catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 6.9 Lot: 114 Plan: SP259137
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 114 Plan: SP259137

Table 1. Area of interest details

Size (ha)	
6.90	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

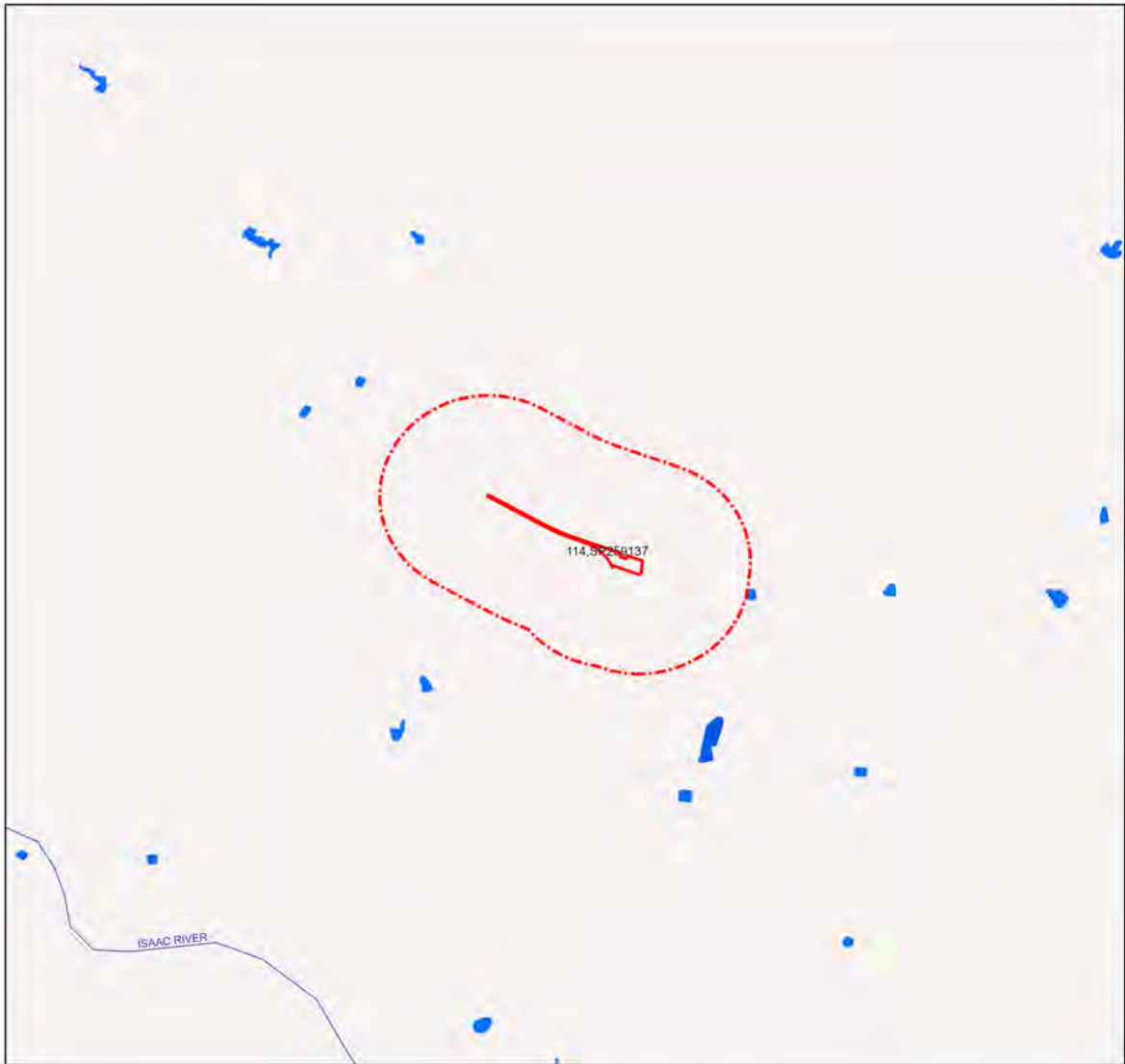
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

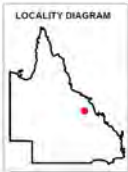
Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



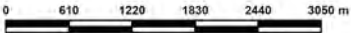
Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - Selected Lot and Plan
 - 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1371	Aves	Acanthizidae	<i>Smicromis brevirostris</i>	weebill	C		0	1	5/2/2012
1654	Aves	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird	C		0	1	5/2/2012
1656	Aves	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird	C		0	1	5/2/2012
1644	Aves	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie	C		0	1	5/2/2012
1645	Aves	Artamidae	<i>Strepera graculina</i>	piebald currawong	C		0	1	5/2/2012
1636	Aves	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	C		0	1	5/2/2012
1810	Aves	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove	C		0	1	5/2/2012
1609	Aves	Corvidae	<i>Corvus orru</i>	Torresian crow	C		0	1	5/2/2012
1342	Aves	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch	C		0	1	5/2/2012
1496	Aves	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater	C		0	1	5/2/2012
1499	Aves	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner	C		0	1	5/2/2012
1493	Aves	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird	C		0	1	5/2/2012
1494	Aves	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird	C		0	1	5/2/2012
1392	Aves	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote	C		0	1	5/2/2012
1318	Aves	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler	C		0	1	5/2/2012
1136	Aves	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella	C		0	1	5/2/2012
1576	Aves	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail	C		0	1	5/2/2012

Table 3. Plants recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

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Department of Environment, Science and Innovation

Environmental Reports

Matters of State Environmental Significance

For the selected area of interest

Lot: 117 Plan: SP259137

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and a field survey may be required to validate values on the ground.

Please direct queries about these reports to: Planning.Support@des.qld.gov.au

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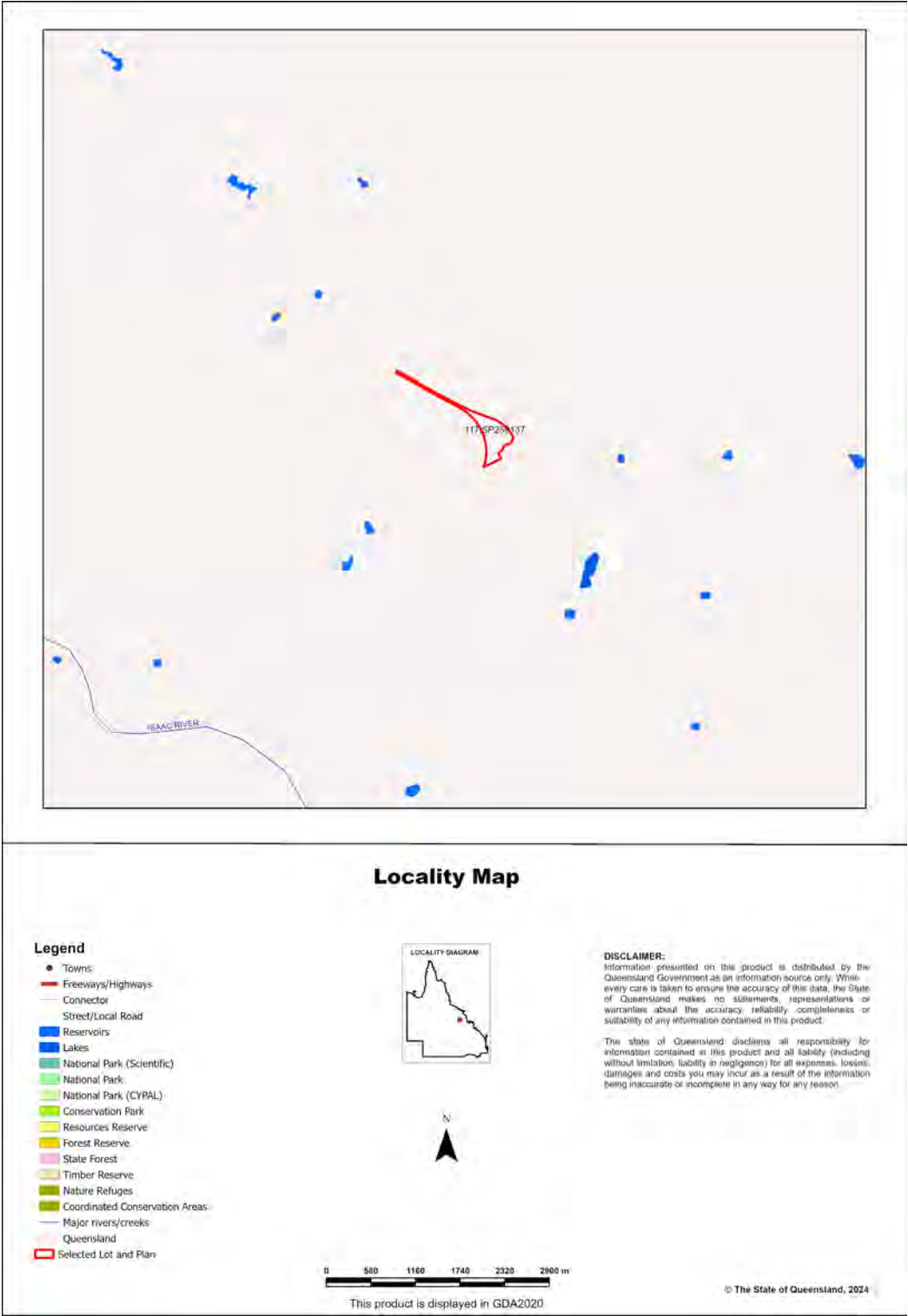
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Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI: Lot: 117 Plan: SP259137, with area 19.2 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin



Matters of State Environmental Significance (MSES)

MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992*;
- *Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004 ;*
- *Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;*
- *Threatened wildlife under the Nature Conservation Act 1992 and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;*
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
 - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
 - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
 - Category R areas on the regulated vegetation management map;
 - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
 - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014 ;*
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

Table 2: Summary of MSES present within the AOI

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	0.0%
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	0 ha	0.0%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	0 ha	0.0%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0 ha	0.0%
8d Regulated Vegetation - Essential habitat	0 ha	0.0%
8e Regulated Vegetation - intersecting a watercourse	0.3 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

(No results)

1b. Protected Areas - nature refuges

(No results)

1c. Protected Areas - special wildlife reserves

(No results)

2. State Marine Parks - highly protected zones

(No results)

3. Fish habitat areas (A and B areas)

(No results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways**4. Strategic Environmental Areas (SEA)**

(No results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

(no results)

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species**7a. Threatened (endangered or vulnerable) wildlife**

Not applicable

7b. Special least concern animals

Not applicable

7c i. Koala habitat area - core (SEQ)

Not applicable

7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>	Keys boronia	V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	None
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Euastacus bindal</i>	Mount Elliot crayfish	CR	None
<i>Euastacus binzayedii</i>		CR	None
<i>Euastacus eungella</i>		E	None
<i>Euastacus hystricosus</i>		E	None
<i>Euastacus jagara</i>	Jagara hairy crayfish	CR	None
<i>Euastacus maidae</i>		CR	None
<i>Euastacus monteithorum</i>		E	None
<i>Euastacus robertsi</i>		E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Melaleuca irbyana</i>	swamp tea-tree	E	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>	bopple nut	V	None
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	V	None
<i>Petrogale coenensis</i>	Cape York rock-wallaby	V	None
<i>Petrogale purpureicollis</i>	purple-necked rock-wallaby	V	None
<i>Petrogale sharmani</i>	Sharmans rock-wallaby	V	None
<i>Petrogale xanthopus celeris</i>	yellow-footed rock-wallaby (Qld subspecies)	V	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	None
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Xeromys myoides</i>	Water Mouse	V	None

*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

Threatened (endangered or vulnerable) wildlife species records

(No results)

Special least concern animal species records

(No results)

Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

Shorebird habitat (special least concern)

Not applicable

**Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals** and **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Not applicable

8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Not applicable

8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Not applicable

8d. Regulated Vegetation - Essential habitat

Not applicable

8e. Regulated Vegetation - intersecting a watercourse**

A vegetation management watercourse is mapped as present

8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Not applicable

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

MSES - Offsets**9a. Legally secured offset areas - offset register areas**

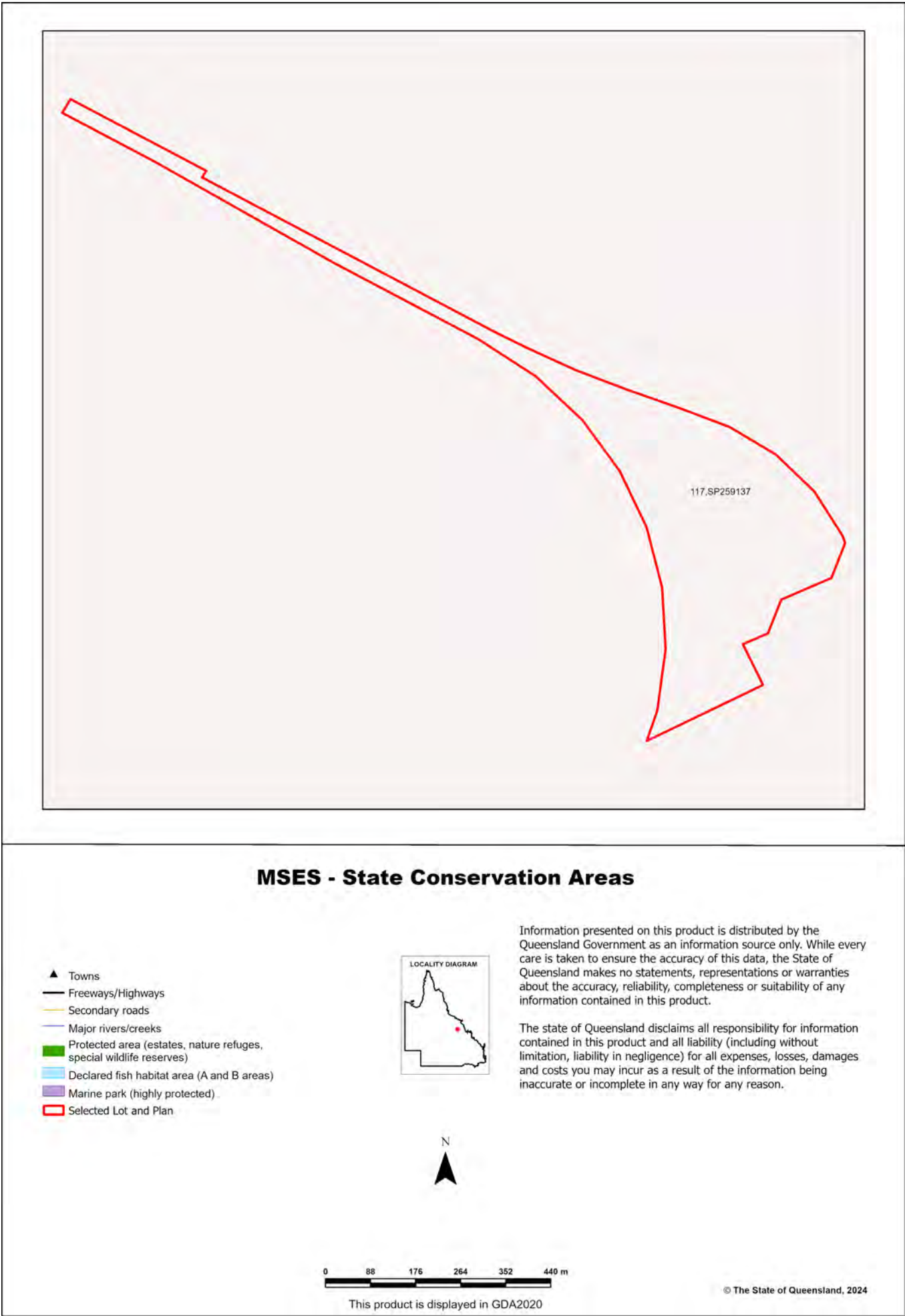
(No results)

9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

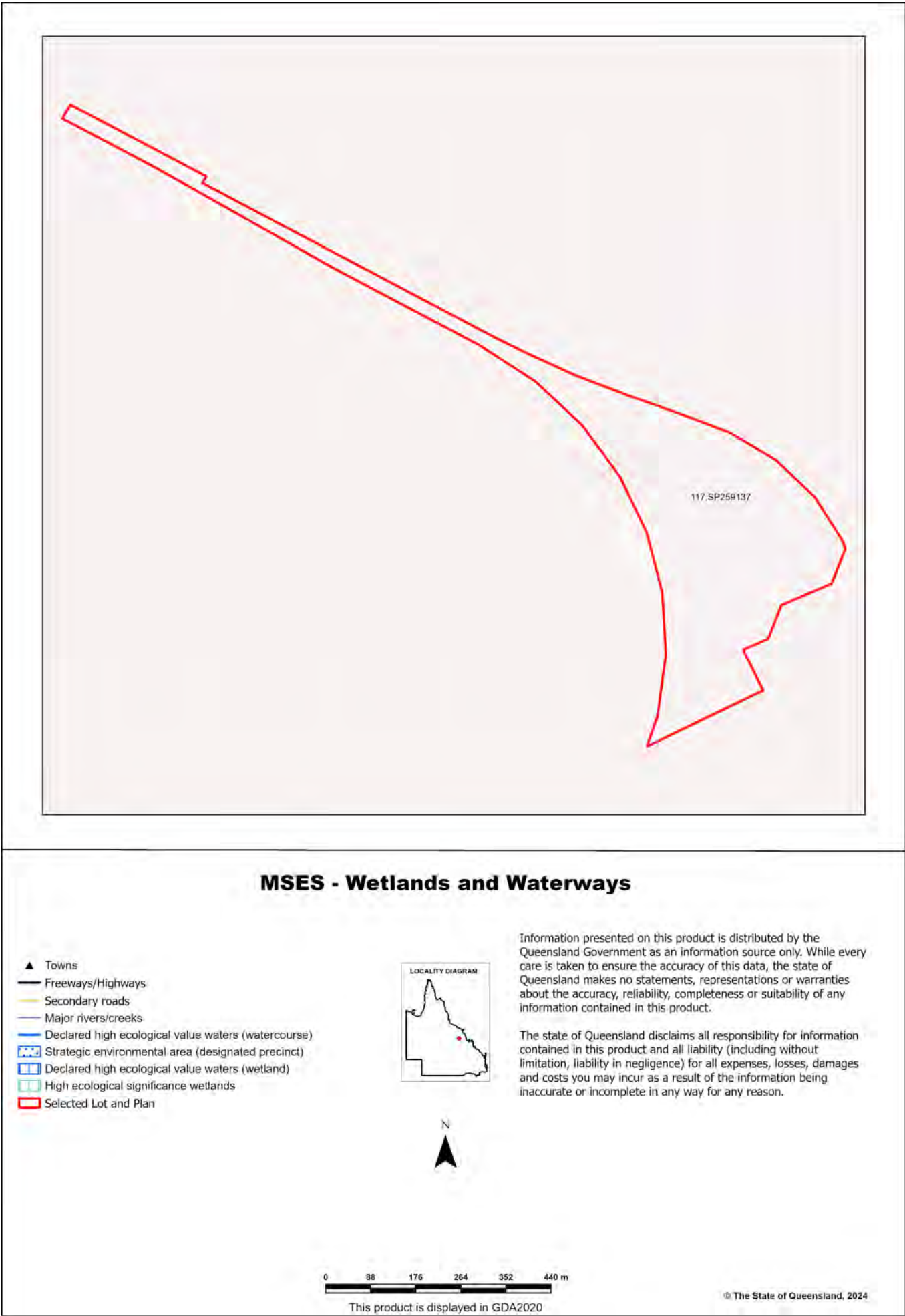
(No results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

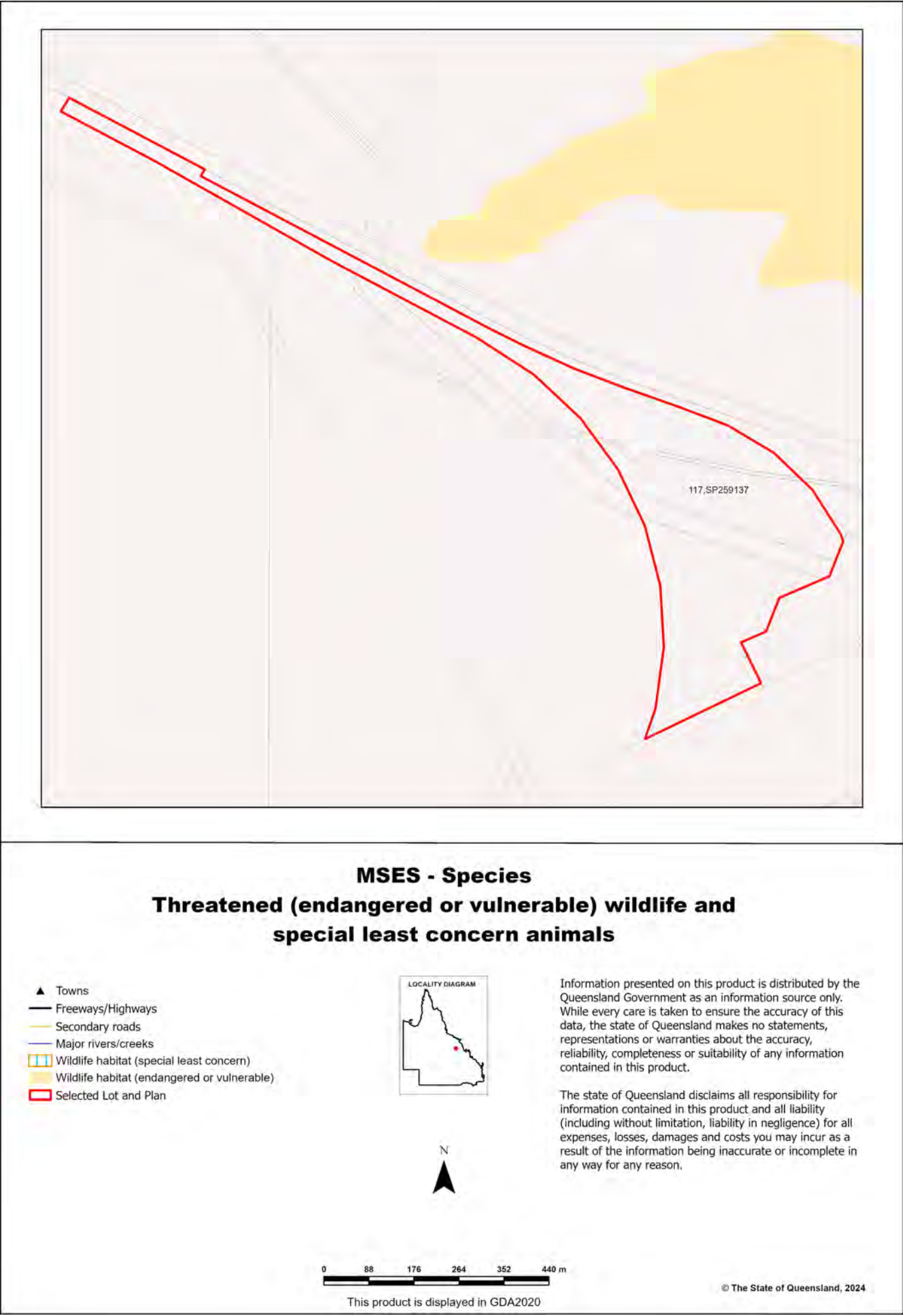
Map 1 - MSES - State Conservation Areas



Map 2 - MSES - Wetlands and Waterways



Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals

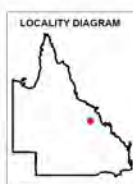


Map 3b - MSES - Species - Koala habitat area (SEQ)



MSES - Species Koala habitat area (SEQ)

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Selected Lot and Plan



The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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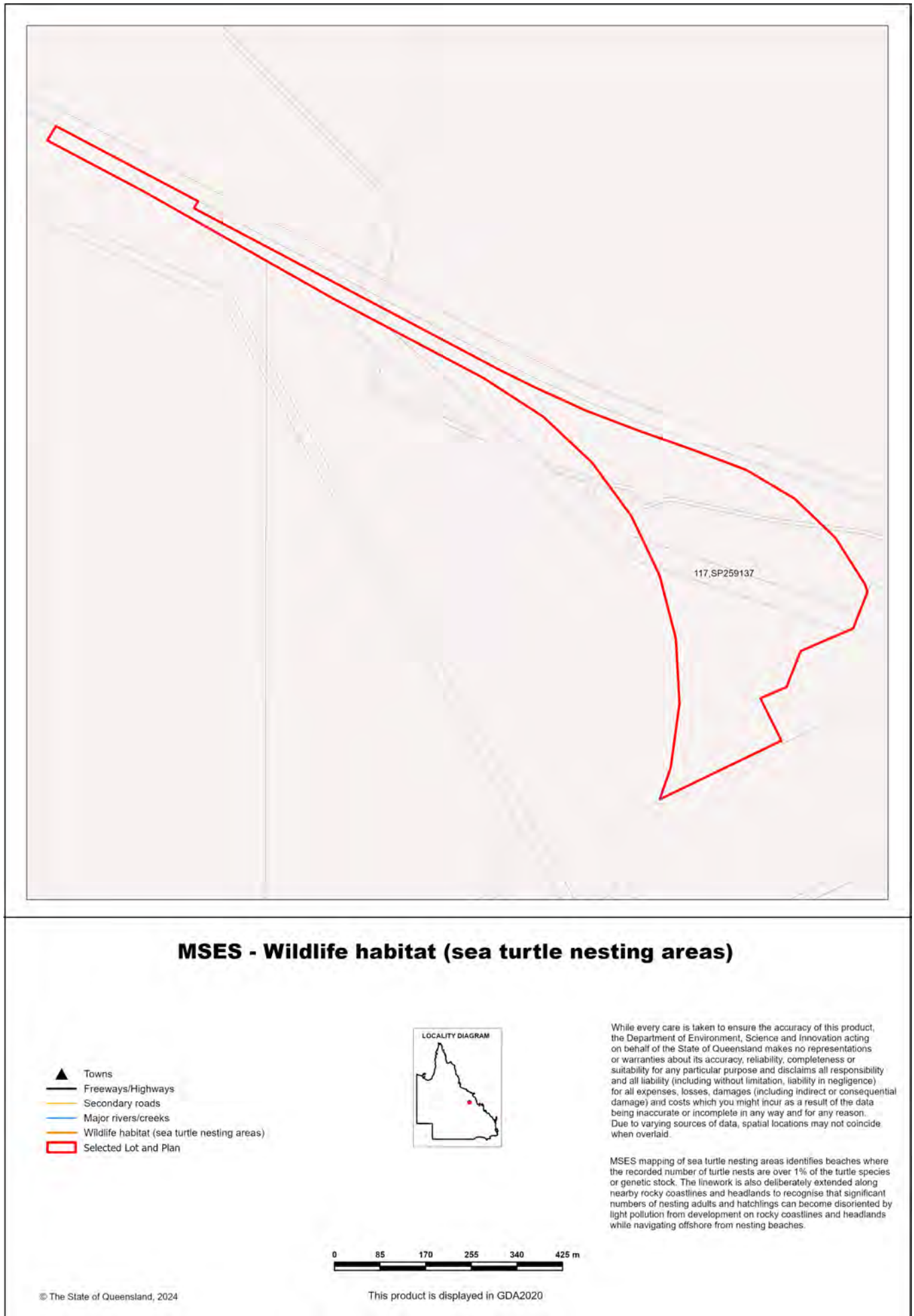


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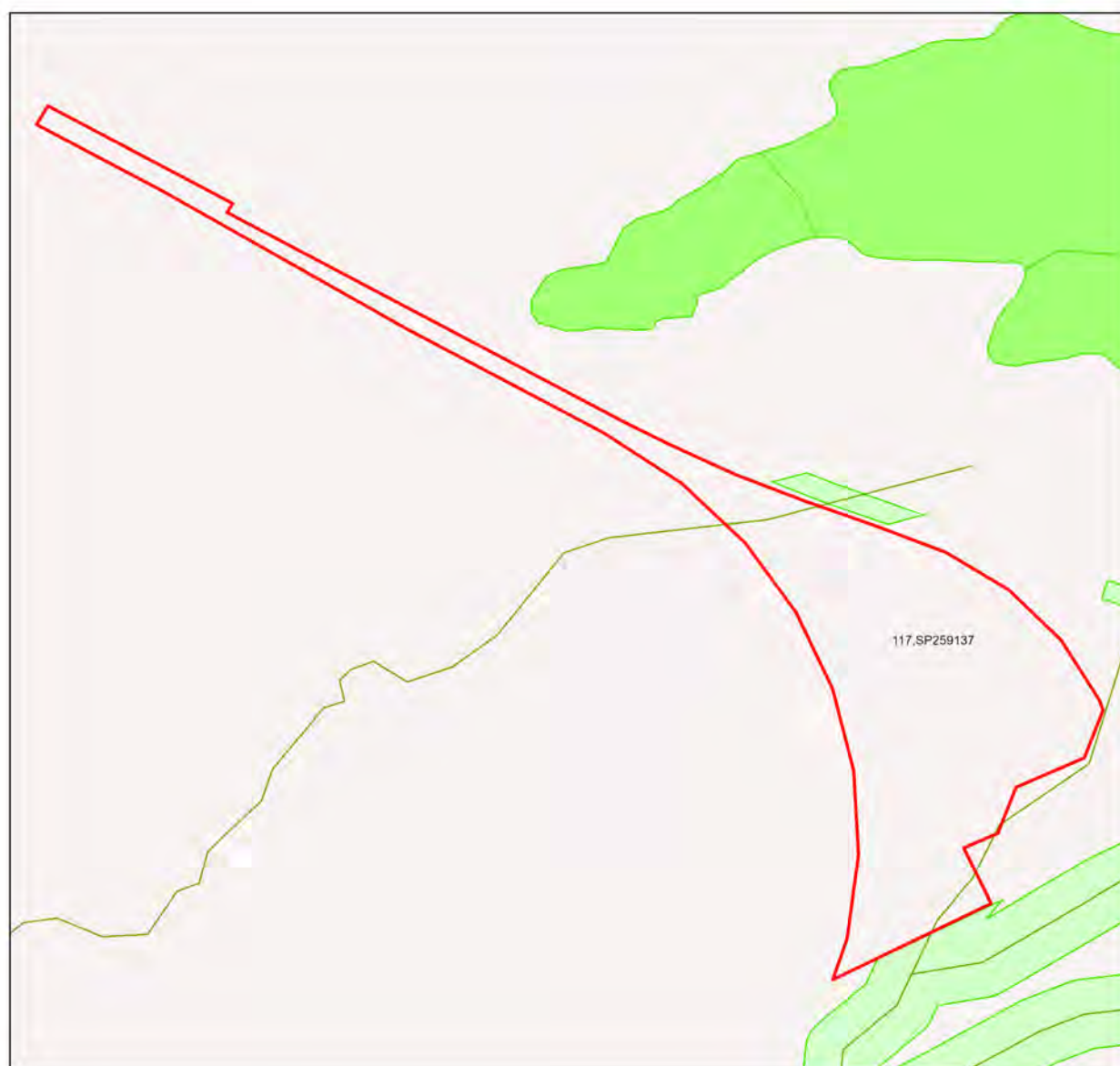
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The represented layers for SEQ 'koala habitat area-core' and 'koala habitat area-locally refined' in MSES are sourced directly from the regulatory mapping under the Nature Conservation (Koala) Conservation Plan 2017. Whilst every effort is made to ensure the information remains current, there may be delays between updating versions. Please refer to the original mapping for the most recent version. See <https://environment.des.qld.gov.au/wildlife/animals/living-with-koalas/mapping>

Map 3c - MSES - Species - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



MSES - Regulated Vegetation

- ▲ Towns
- Freeways/Highways
- Secondary roads
- Major rivers/creeks
- Regulated vegetation (intersecting a watercourse)
- Regulated vegetation (100m from wetland)
- Regulated vegetation (category B - endangered or of concern)
- Regulated vegetation (category C - endangered or of concern)
- Regulated vegetation (category R - GBR riverine)
- Regulated vegetation (essential habitat)
- Selected Lot and Plan

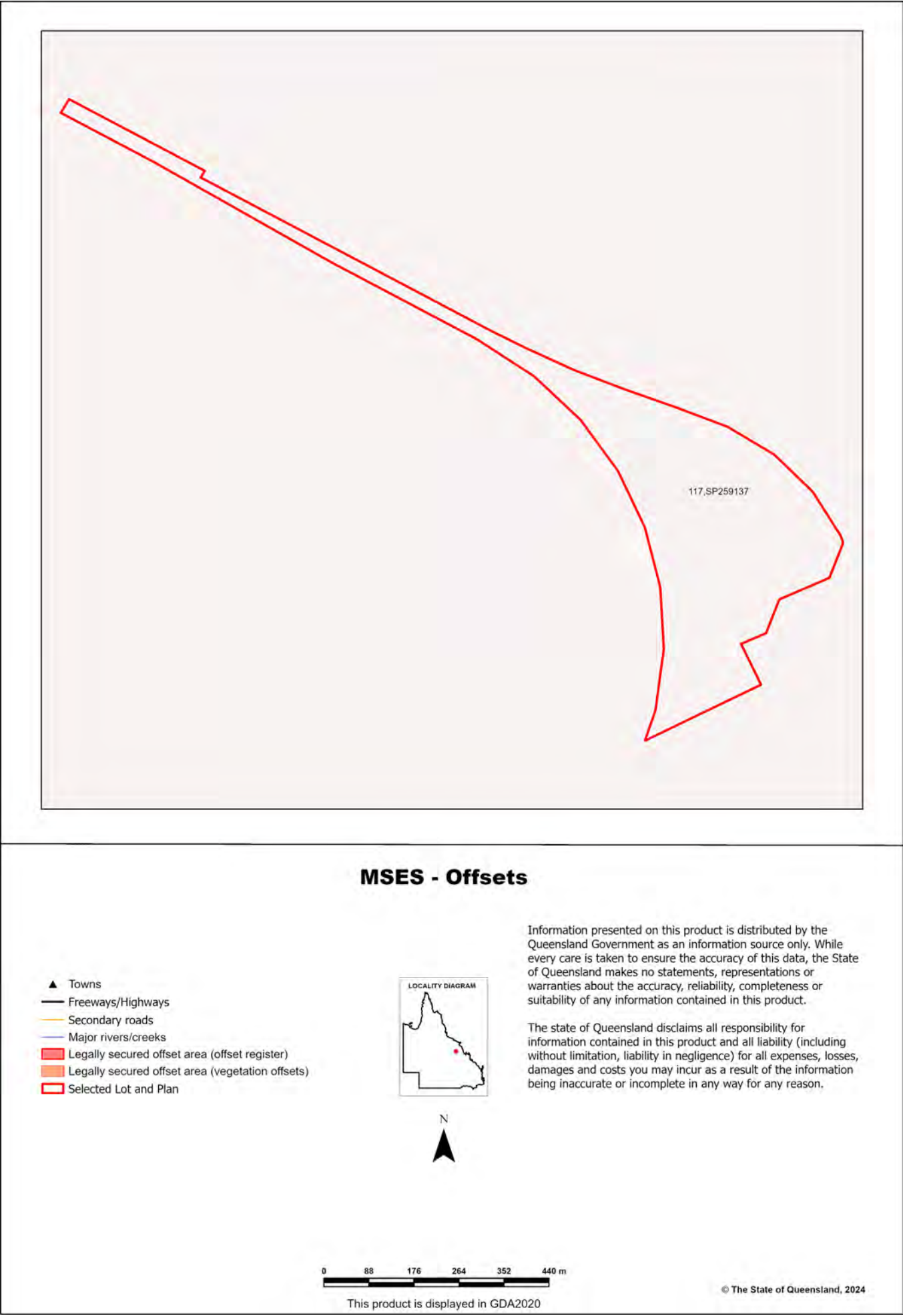


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Map 5 - MSES - Offset Areas



Appendices

Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). Its primary purpose is to support implementation of the SPP biodiversity policy.

MSES mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations.

MSES mapping does not determine whether state or local development assessment is required. For state assessment triggers refer to the Development Assessment Mapping System (DAMS). For local assessment triggers, refer to the relevant local planning scheme.

The Queensland Government's "Method for mapping - matters of state environmental significance can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data (http://qspatial.information.qld.gov.au)
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	-WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DESI	- Department of Environment, Science and Innovation
EP Act	- Environmental Protection Act 1994
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- Nature Conservation Act 1992
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- Vegetation Management Act 1999



Department of Environment, Science and Innovation

Environmental Reports

Regional Ecosystems

Biodiversity Status

For the selected area of interest

Lot: 117 Plan: SP259137

Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the input coordinates.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 2020). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Important Note to User

Information presented in this report is based upon the Queensland Herbarium & Biodiversity Science's Regional Ecosystem framework. The Biodiversity Status has been used to depict the extent of "Endangered", "Of Concern" and "No Concern at Present" regional ecosystems in all cases, rather than the classes used for the purposes of the *Vegetation Management Act 1999* (VMA). Mapping and figures presented in this document reflect the Queensland Herbarium & Biodiversity Science's Remnant and Pre-clearing Regional Ecosystem Datasets, and not the certified mapping used for the purpose of the VMA.

For matters relevant to vegetation management under the VMA, please refer to the Department of Resources website <https://www.resources.qld.gov.au/>

Please direct queries about these reports to: Queensland.Herbarium@qld.gov.au

Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government 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 the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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Summary Information

The following table provides an overview of the AOI with respect to selected topographic and environmental themes. Refer to **Map 1** for locality information.

Table 1: Details for area of interest:
Lot: 117 Plan: SP259137, with area 19.2 ha

Local Government(s)	Catchment(s)	Bioregion(s)	Subregion(s)
Isaac Regional	Fitzroy	Brigalow Belt	Northern Bowen Basin

The table below summarizes the extent of remnant vegetation classed as "Endangered", "Of concern" and "No concern at present" regional ecosystems classified by Biodiversity Status within the area of interest (AOI).

Table 2: Summary table, biodiversity status of regional ecosystems within the AOI

Biodiversity Status	Area (Ha)	% of AOI
Endangered	0.00	0.00
Of concern	0.00	0.00
No concern at present	0.00	0.00
Total remnant vegetation	0.00	0.00

Refer to **Map 2** for further information.

Regional Ecosystems

1. Introduction

Regional ecosystems are vegetation communities in a bioregion that are consistently associated with particular combinations of geology, landform and soil (Sattler and Williams 1999). Descriptions of Queensland's Regional ecosystems are available online from the Regional Ecosystem Description Database (REDD). Descriptions are compiled from a broad range of information sources including vegetation, land system and geology survey and mapping and detailed vegetation site data. The regional ecosystem classification and descriptions are reviewed as new information becomes available. A number of vegetation communities may form a single regional ecosystem and may be distinguished by differences in structure or sub-dominant species in the ecologically dominant layer. Vegetation communities with different dominant species in the ecologically dominant layer may be amalgamated into a regional ecosystem if they are not mappable and predictable in the landscape at 1:100 000 scale. Vegetation communities may be mappable at a scale larger than 1:100 000. Vegetation communities within a regional ecosystem are denoted by a letter following the regional ecosystem code (e.g. a, b, c). Vegetation communities and regional ecosystems are amalgamated into a higher level classification of broad vegetation groups (BVGs).

A published methodology for survey and mapping of regional ecosystems across Queensland (Neldner et al 2023) provides further details on regional ecosystem concepts and terminology.

This report provides information on the type, status, and extent of vegetation communities, regional ecosystems and broad vegetation groups present within a user specified area of interest. Please note, for the purpose of this report, the Biodiversity Status is used. This report has not been developed for application of the *Vegetation Management Act 1999* (VMA). Additionally, information generated in this report has been derived from the Queensland Herbarium & Biodiversity Science's Regional Ecosystem Mapping, and not the regulated mapping certified for the purposes of the VMA. If your interest/matter relates to regional ecosystems and the VMA, users should refer to the Department of Resources website <https://www.resources.qld.gov.au/>.

With respect to the Queensland Biodiversity Status,

"Endangered" regional ecosystems are described as those where:

- remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30% of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares, or
- less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*, or
- 10-30 percent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or
- it is a rare** regional ecosystem subject to a threatening process.***

"Of concern" regional ecosystems are described as those where:

- the degradation criteria listed above for 'Endangered' regional ecosystems are not met and,
- remnant vegetation is 10-30 per cent of its pre-clearing extent across the bioregion; or more than 20 per cent of its pre-clearing extent remains and the remnant extent is less than 10,000 hectares, or
- 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss.****

and "No concern at present" regional ecosystems are described as those where:

- remnant vegetation is over 30 percent of its pre-clearing extent across the bioregion, and the remnant area is greater than 10,000 hectares, and
- the degradation criteria listed above for 'Endangered' or 'Of concern' regional ecosystems are not met.

**Severe degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 50 years even with the removal of threatening processes; or soil surface is severely degraded, for example, by loss of A horizon, surface expression of salinity; surface compaction, loss of organic matter or sheet erosion.*

***Rare regional ecosystem: pre-clearing extent (<1000 ha); or patch size (<100 ha and of limited total extent across its range).*

****Threatening processes are those that are reducing or will reduce the biodiversity and ecological integrity of a regional ecosystem. For example, clearing, weed invasion, fragmentation, inappropriate fire regime or grazing pressure, or infrastructure development.*

*****Moderate degradation and/or biodiversity loss is defined as: floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.*

2. Remnant Regional Ecosystems

The following table identifies the remnant regional ecosystems and vegetation communities mapped within the AOI and provides their short descriptions, Biodiversity Status, and remnant extent within the selected AOI. Please note, where heterogeneous vegetated patches (mixed patches of remnant vegetation mapped as containing multiple regional ecosystems) occur within the AOI, they have been split and listed as individual regional ecosystems (or vegetation communities where present) for the purposes of the table below. In such instances, associated area figures have been generated based upon the estimated proportion of each regional ecosystem (or vegetation community) predicted to be present within the larger mixed patch.

Table 3: Remnant regional ecosystems, description and status within the AOI

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
non-remnant	None	None	19.20	100.00

Refer to **Map 2** for further information. **Map 3** also provides a visual estimate of the distribution of regional ecosystems present before clearing.

Table 4 provides further information in regards to the remnant regional ecosystems present within the AOI. Specifically, the extent of remnant vegetation remaining within the bioregion, the 1:1,000,000 broad vegetation group (BVG) classification, whether the regional ecosystem is identified as a wetland, and extent of representation in Queensland's Protected Area Estate. For a description of the vegetation communities within the AOI and classified according to the 1:1,000,000 BVG, refer to **Table 6**.

Table 4: Remnant regional ecosystems within the AOI, additional information

Regional Ecosystem	Remnant Extent	BVG (1 Million)	Wetland	Representation in protected estate
non-remnant	None	None	None	None

Representation in Protected Area Estate: High greater than 10% of pre-clearing extent is represented; Medium 4 - 10% is represented; Low less than 4% is represented, No representation.

The distribution of mapped wetland systems within the area of interest is displayed in **Map 6**.

The following table lists known special values associated with a regional ecosystem type.

Table 5: Remnant regional ecosystems within the AOI, special values

Regional Ecosystem	Special Values
non-remnant	None

3. Remnant Regional Ecosystems by Broad Vegetation Group

BVGs are a higher-level grouping of vegetation communities. Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid climatic zones. BVGs provide an overview of vegetation communities across the state or a bioregion and allow comparison with other states. There are three levels of BVGs which reflect the approximate scale at which they are designed to be used: the 1:5,000,000 (national), 1:2,000,000 (state) and 1:1,000,000 (regional) scales.

A comprehensive description of BVGs is available at: <https://publications.qld.gov.au/dataset/redd/resource/>

The following table provides a description of the 1:1,000,000 BVGs present and their associated extent within the AOI.

Table 6: Broad vegetation groups (1 million) within the AOI

BVG (1 Million)	Description	Area (Ha)	% of AOI
None	None	19.20	100.00

Refer to **Map 4** for further information. **Map 5** also provides a representation of the distribution of vegetation communities as per the 1:5,000,000 BVG believed to be present prior to European settlement.

4. Technical and BioCondition Benchmark Descriptions

Technical descriptions provide a detailed description of the full range in structure and floristic composition of regional ecosystems (e.g. 11.3.1) and their component vegetation communities (e.g. 11.3.1a, 11.3.1b). See: <http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

The descriptions are compiled using site survey data from the Queensland Herbarium & Biodiversity Science's QBEIS database. Distribution maps, representative images (if available) and the pre-clearing and remnant extent (hectares) of each vegetation community derived from the regional ecosystem mapping data are included. The technical descriptions should be used in conjunction with the fields from the regional ecosystem description database (REDD) for a full description of the regional ecosystem.

Technical descriptions include data on canopy height, canopy cover and native plant species composition of the predominant layer, which are attributes relevant to assessment of the remnant status of vegetation under the *Vegetation Management Act 1999*. However, as technical descriptions reflect the full range in structure and floristic composition across the climatic, natural disturbance and geographic range of the regional ecosystem, local reference sites should be used for remnant assessment where possible (Neldner et al. 2023 (PDF)* section 3.3 of: https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

The technical descriptions are subject to review and are updated as additional data becomes available.

When conducting a BioCondition assessment, these technical descriptions should be used in conjunction with BioCondition benchmarks for the specific regional ecosystem, or component vegetation community. <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

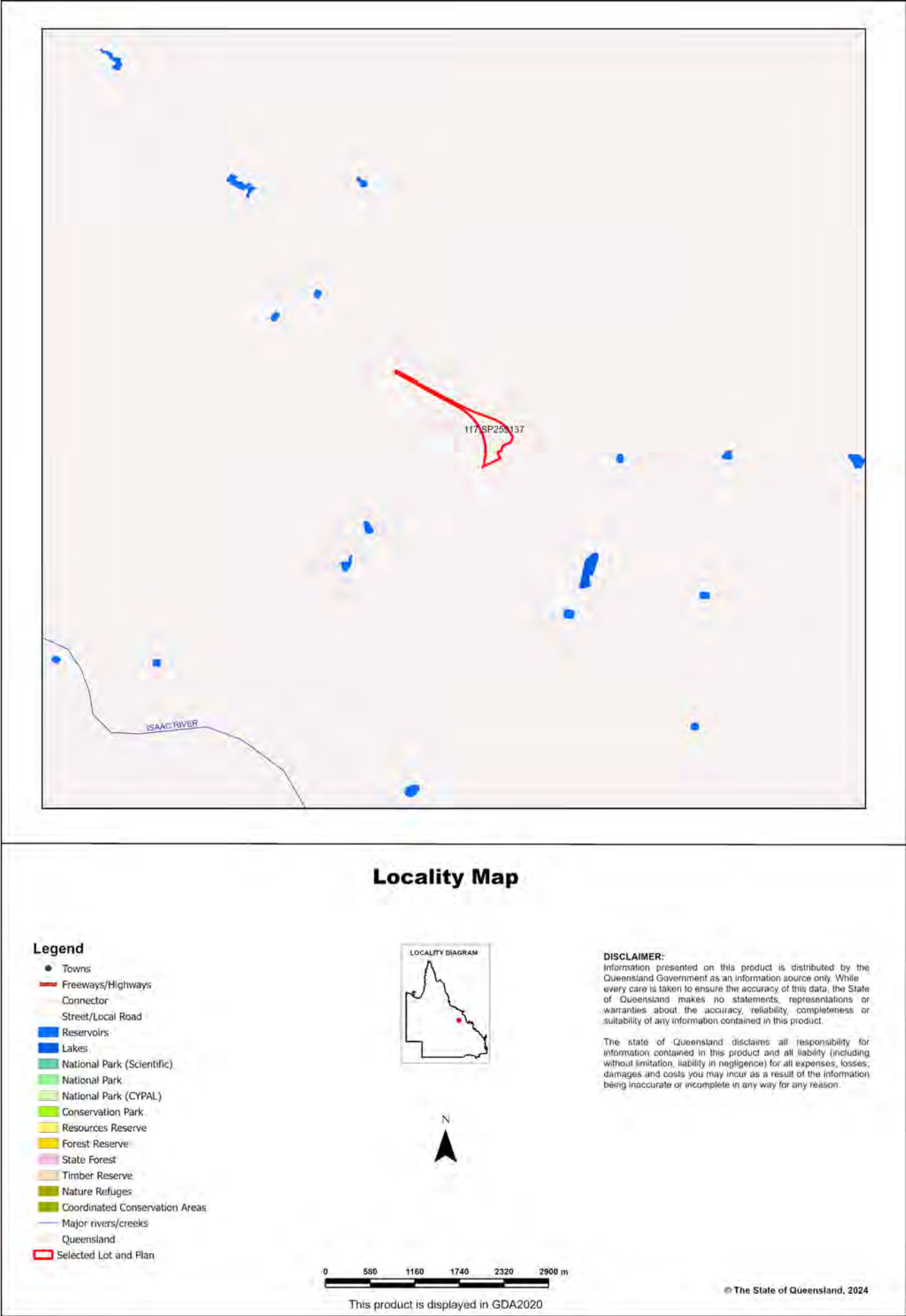
Benchmarks are based on a combination of quantitative and qualitative information and should be used as a guide only. Benchmarks are specific to one regional ecosystem vegetation community, however, the natural variability in structure and floristic composition under a range of climatic and natural disturbance regimes has been considered throughout the geographic extent of the regional ecosystem. Local reference sites should be used for this spatial and temporal (seasonal and annual) variability.

Table 7: List of remnant regional ecosystems within the AOI for which technical and biocondition benchmark descriptions are available

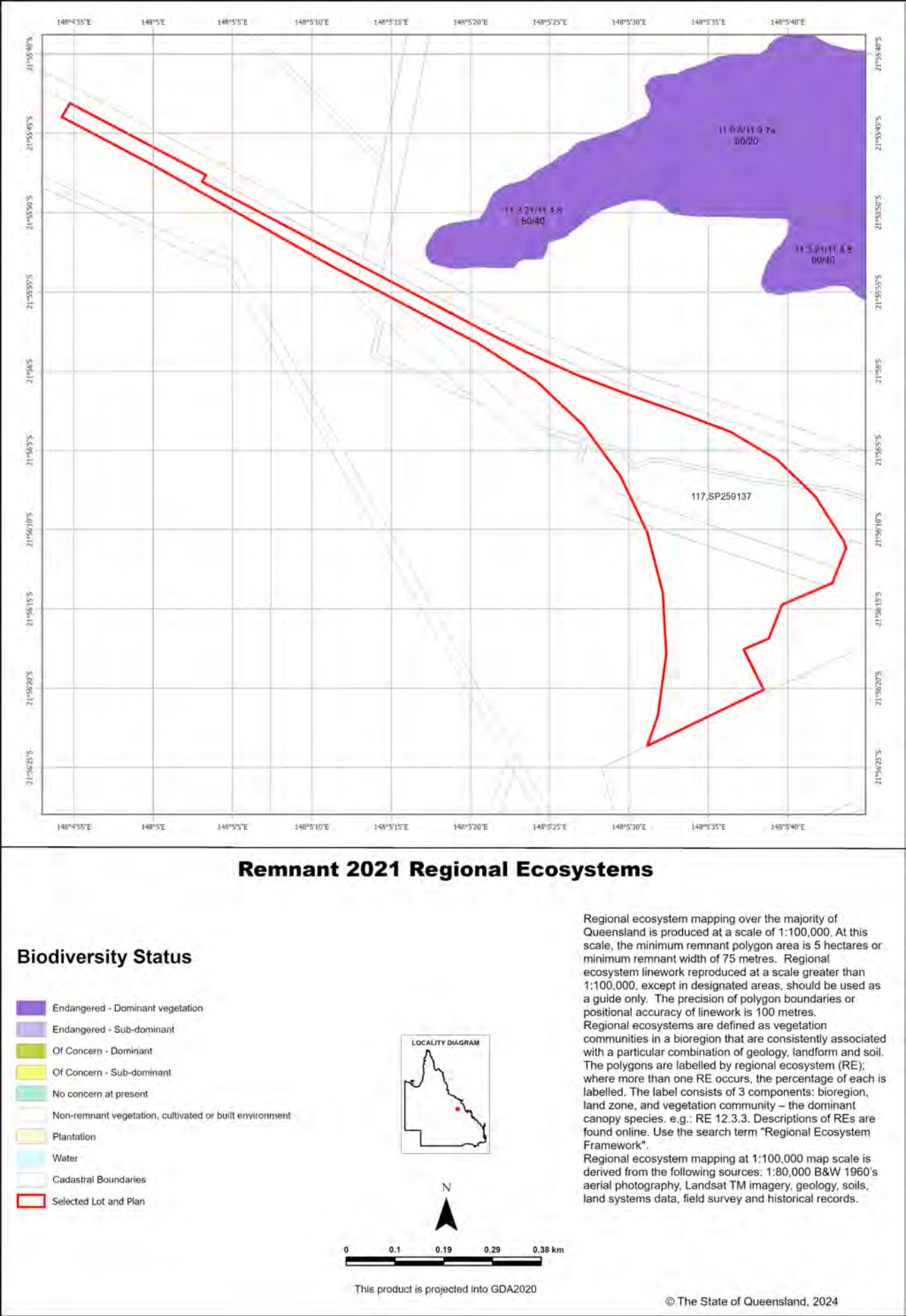
Regional ecosystems mapped as within the AOI	Technical Descriptions	Biocondition Benchmarks
non-remnant	Not currently available	Not currently available

Maps

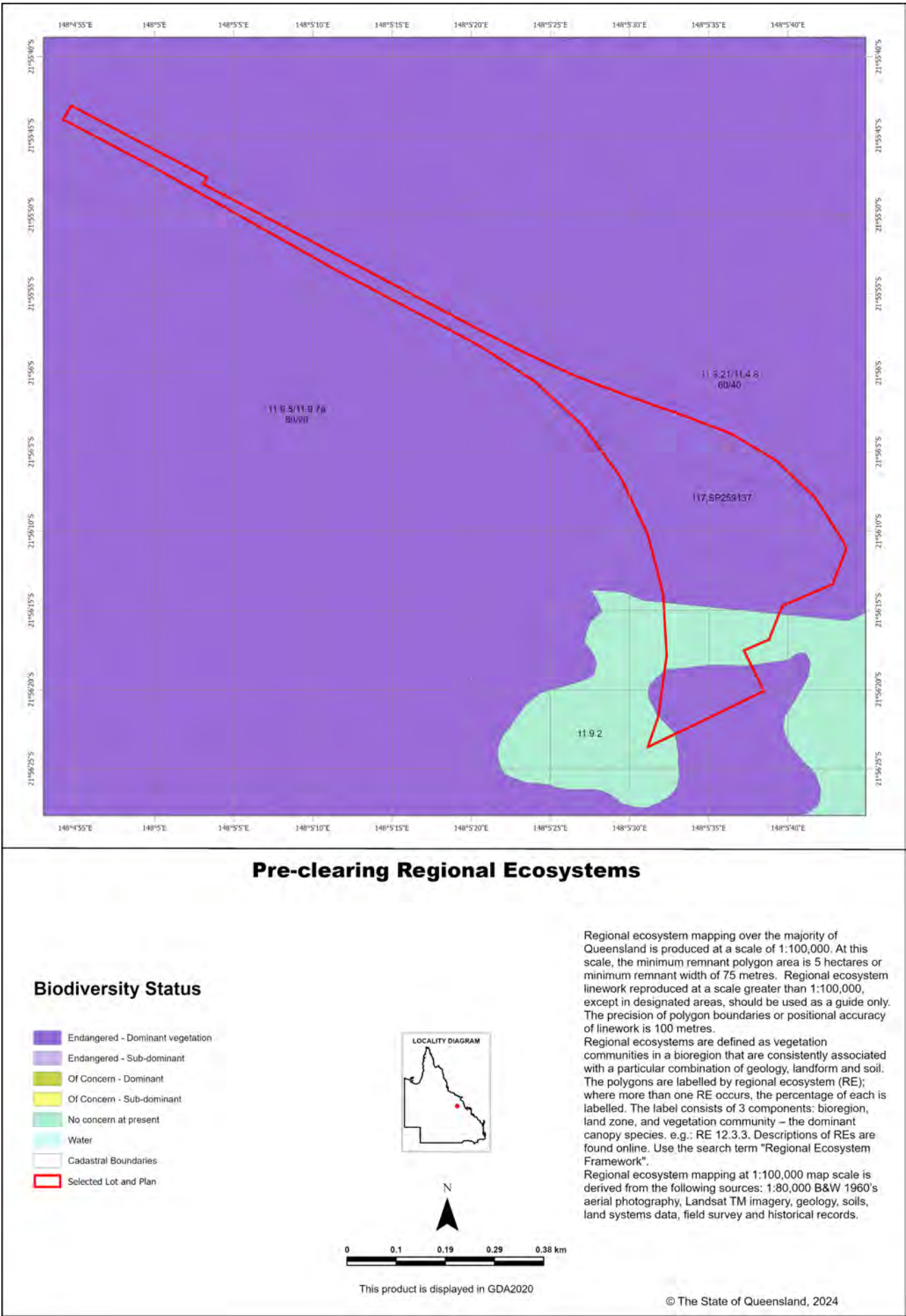
Map 1 - Location



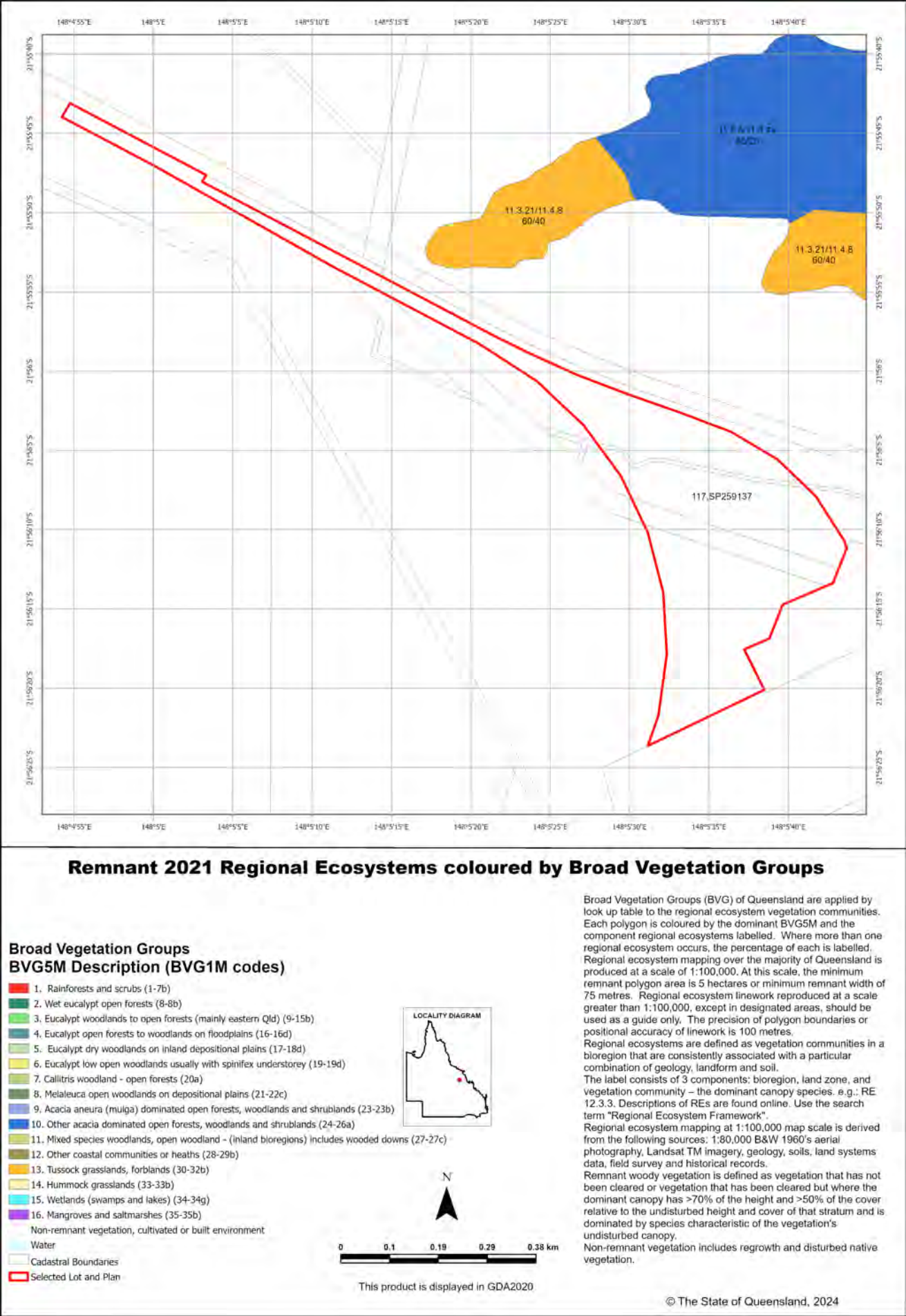
Map 2 - Remnant 2021 regional ecosystems



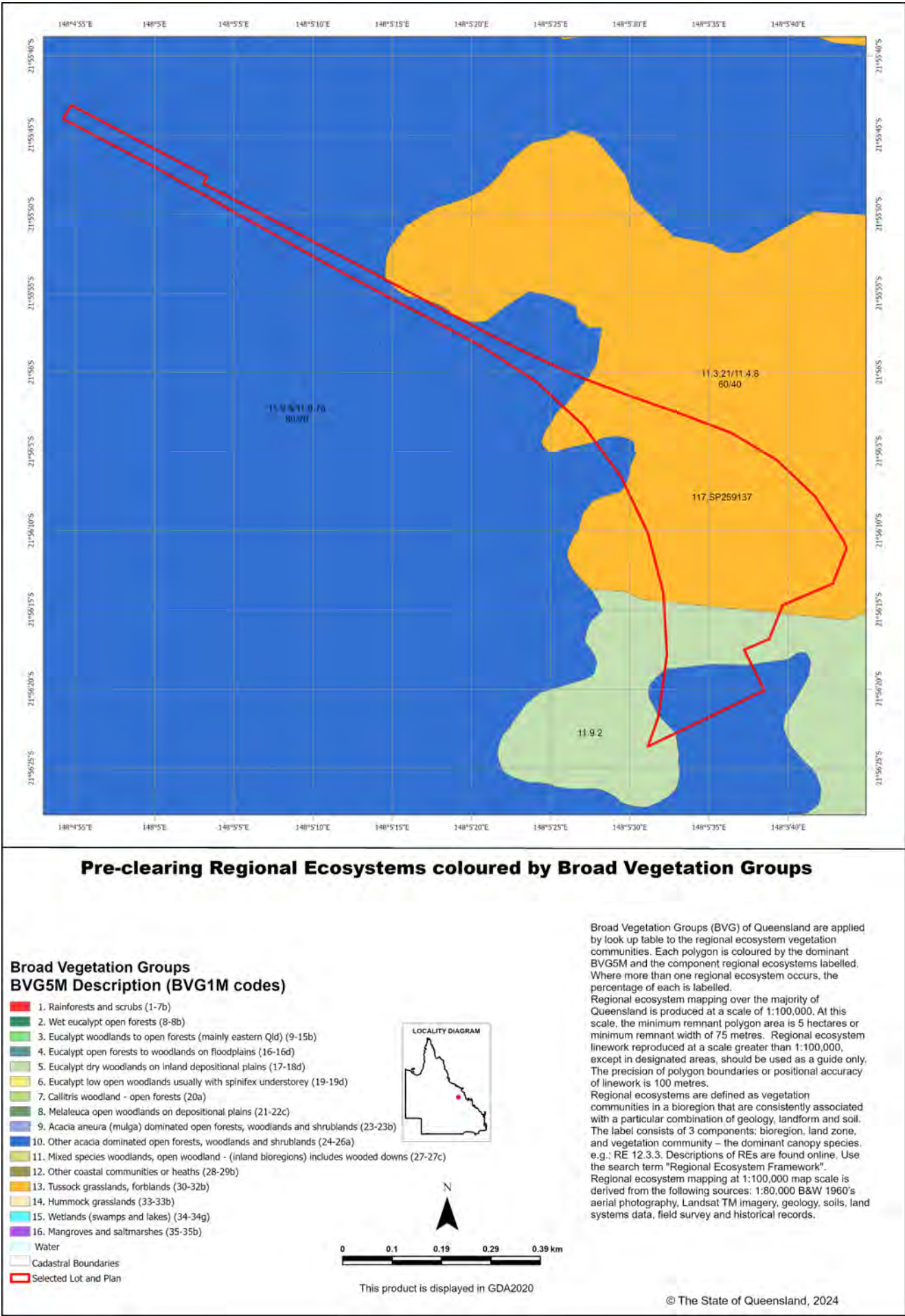
Map 3 - Pre-clearing regional ecosystems



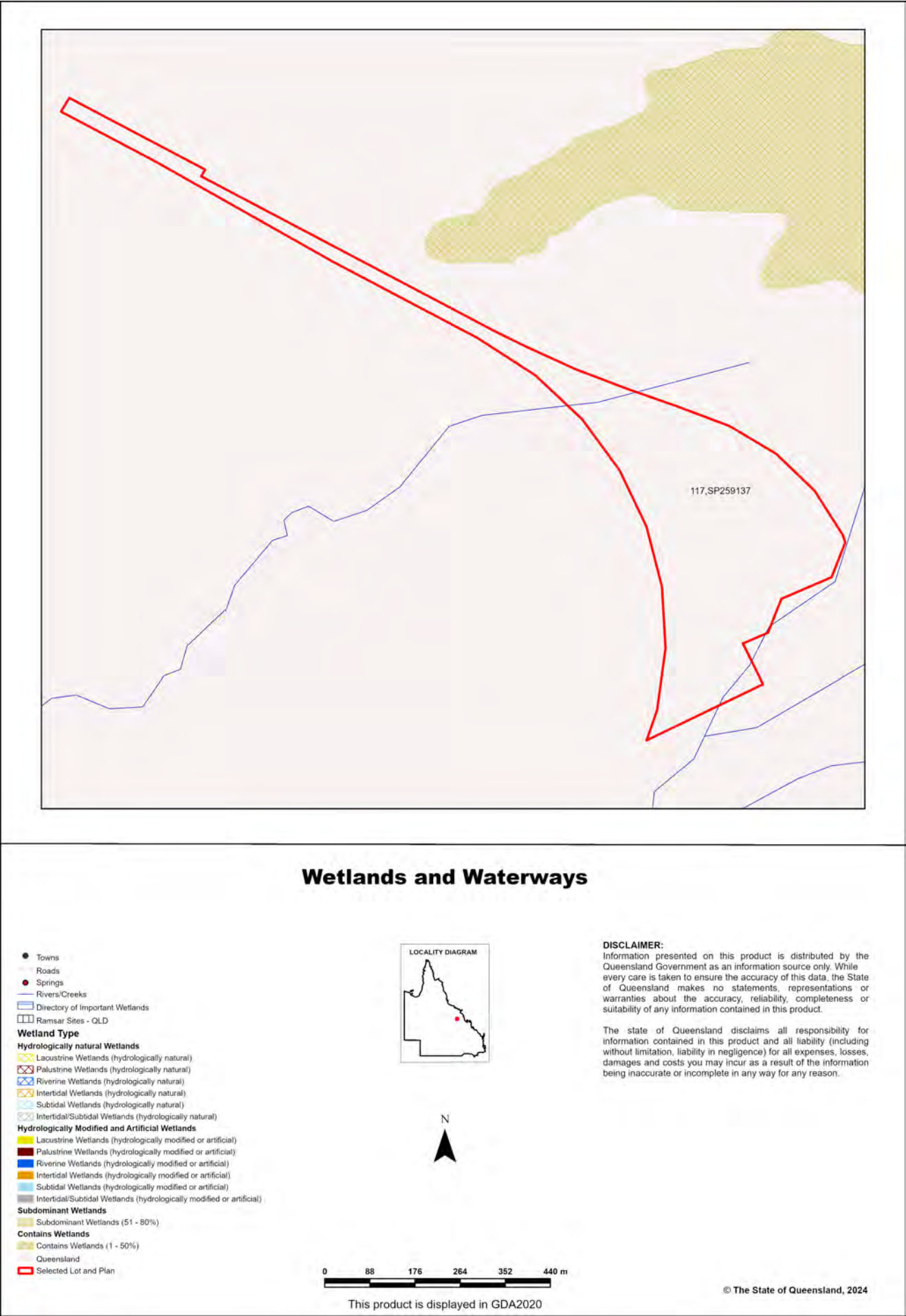
Map 4 - Remnant 2021 regional ecosystems by BVG (5M)



Map 5 - Pre-clearing regional ecosystems by BVG (5M)



Map 6 - Wetlands and waterways



Links and Other Information Sources

The Department of Environment, Science and Innovation's Website -

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/> provides further information on the regional ecosystem framework, including access to links to the Regional Ecosystem Database, Broad Vegetation Group Definitions, Regional Ecosystem and Land zone descriptions.

Descriptions of the broad vegetation groups of Queensland can be downloaded from:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/broad-vegetation>

The methodology for mapping regional ecosystems can be downloaded from:

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf

Technical descriptions for regional ecosystems can be obtained from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/technical-descriptions/>

Benchmarks can be obtained from: <http://www.qld.gov.au/environment/plants-animals/biodiversity/benchmarks/>

For further information associated with the remnant regional ecosystem dataset used by this report, refer to the metadata associated with the Biodiversity status of pre-clearing and Remnant Regional Ecosystems of Queensland dataset (version listed in **Appendix 1**) which is available through the Queensland Spatial Catalogue, [Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](http://www.qld.gov.au/spatial-catalogue)

The Queensland Globe is a mapping and data application. As an interactive online tool, Queensland Globe allows you to view and explore Queensland maps, imagery (including up-to-date satellite images) and other spatial data, including regional ecosystem mapping. To further view and explore regional ecosystems over an area of interest, access the Biota Globe (a component of the Queensland Globe). The Queensland Globe can be accessed via the following link:

<https://qldglobe.information.qld.gov.au/>

References

Neldner, V.J., Niehus, R.E., Wilson, B.A., McDonald, W.J.F., Ford, A.J. and Accad, A. (2023). The Vegetation of Queensland. Descriptions of Broad Vegetation Groups. Version 6.0. Queensland Herbarium, Department of Environment and Science.

<https://publications.qld.gov.au/dataset/redd/resource/78209e74-c7f2-4589-90c1-c33188359086>

Neldner, V.J., Wilson, B.A., Dillewaard, H.A., Ryan, T.S., Butler, D.W., McDonald, W.J.F., Richter, D., Addicott, E.P. and Appelman, C.N. (2023) Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 7.0. Updated December 2023. Queensland Herbarium, Queensland Department of Environment, Science and Innovation, Brisbane.

https://www.qld.gov.au/_data/assets/pdf_file/0033/459186/methodology-mapping-surveying-v7.pdf.

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

Appendices

Appendix 1 - Source Data

The dataset listed below is available for download from:

<http://www.qld.gov.au/environment/plants-animals/plants/ecosystems/download/>

- Regional Ecosystem Description Database

The datasets listed below are available for download from:

[Queensland Spatial Catalogue : Queensland Government \(information.qld.gov.au\)](https://www.qld.gov.au/information/spatial/catalogue)

- Biodiversity status of pre-clearing and 2021 remnant regional ecosystems of Queensland
- Pre-clearing Vegetation Communities and Regional Ecosystems of Queensland
- Queensland Wetland Data Version - Wetland lines
- Queensland Wetland Data Version - Wetland points
- Queensland Wetland Data Version - Wetland areas
- Pre-clearing broad vegetation groups of Queensland
- Remnant 2021 broad vegetation groups of Queensland

Appendix 2 - Acronyms and Abbreviations

AOI	- Area of Interest
GIS	- Geographic Information System
RE	- Regional Ecosystem
REDD	- Regional Ecosystem Description Database
VMA	- <i>Vegetation Management Act 1999</i>



WildNet Records Species List

For the selected area of interest 19.2 Lot: 117 Plan: SP259137
Current as at 26/08/2024 WildNetSpeciesList

Summary Information

The following table provides an overview of the area of interest: Lot: 117 Plan: SP259137

Table 1. Area of interest details

Size (ha)	
19.20	
Local Government(s)	
Isaac Regional	
Catchment(s)	
Fitzroy	
Bioregion(s)	Subregion(s)
Brigalow Belt	Northern Bowen Basin

Protected Area(s)

No estates or reserves are located within the area of interest.

World Heritage Area(s)

No World Heritage Areas are located within the area of interest.

Ramsar Area(s)

No Ramsar Areas are located within the area of interest.

Introduction

This WildNet report is derived from a spatial layer that is generated from the [WildNet database](#), managed by the Department of Environment, Science and Innovation. The layer, which is generated weekly, contains a subset of WildNet wildlife records that are not classed as erroneous or duplicate, that have a location precision equal to or less than 10000 metres and do not have a count of zero. It does not include aspatial data such as some baseline species lists created for some protected areas.

The WildNet dataset is constantly being enhanced and the taxonomic and status information revised. If a species is not listed in this report, it does not mean it doesn't occur there and listed species may also no longer inhabit the area. It is recommended that you also access other internal and external data sources for species information in your area of interest.

The [Species List Application](#) may provide additional information on species occurrence within your area of interest.

Species data

Contextual location information is presented in Map 1.

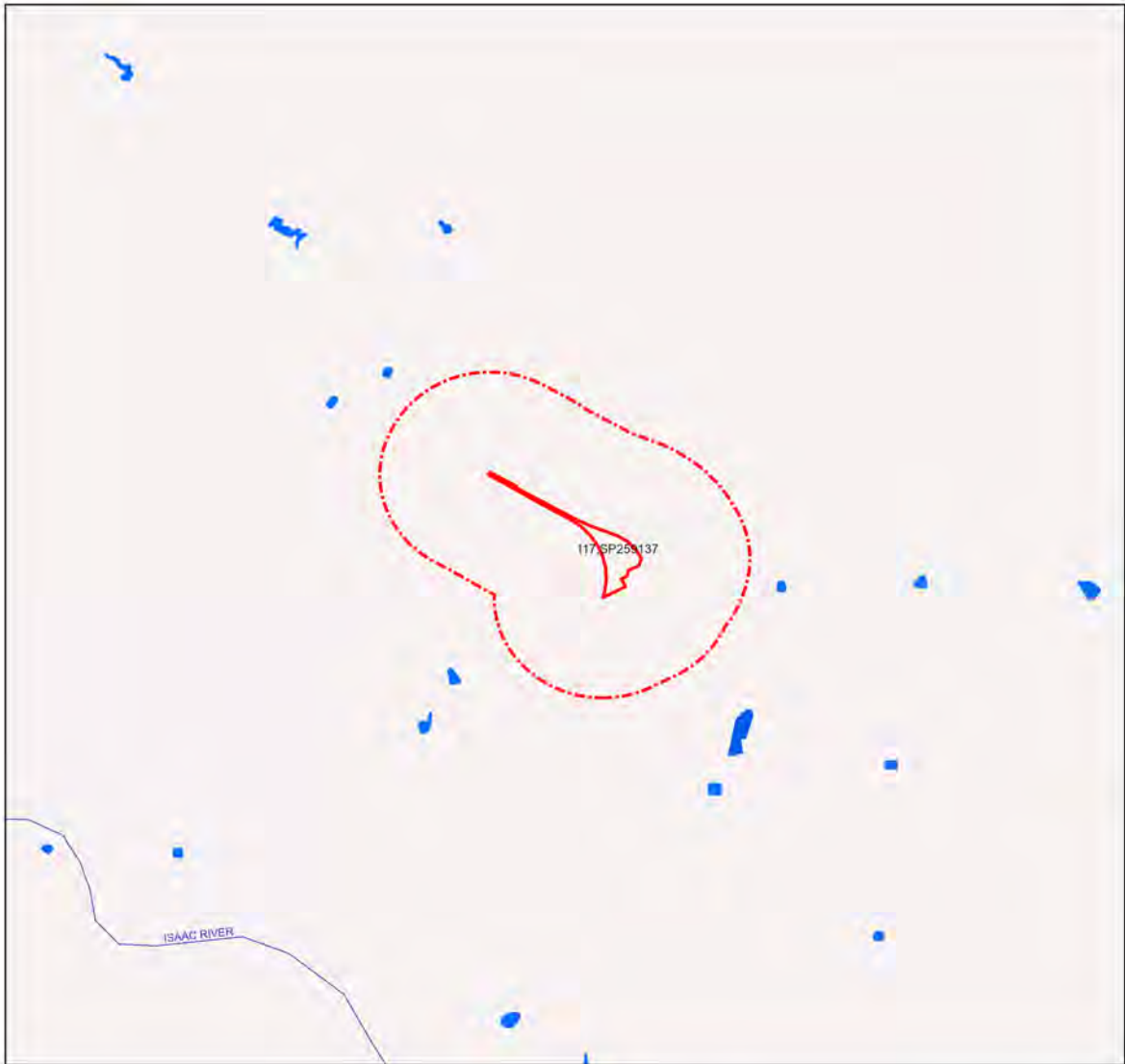
Table 2 lists the animals recorded within the area of interest and its one kilometre buffer.

Table 3 lists the plants recorded within the area of interest and its one kilometre buffer.

Table 4 lists the fungi recorded within the area of interest and its one kilometre buffer.

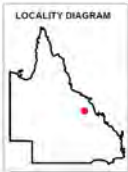
Table 5 lists the other species recorded within the area of interest and its one kilometre buffer.

Map 1. Locality Map



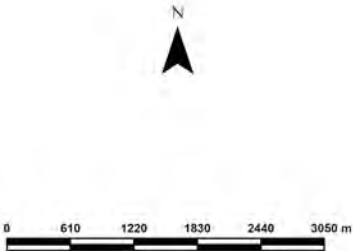
Locality Map

- Legend**
- Towns
 - Freeways/Highways
 - Connector
 - Street/Local Road
 - Reservoirs
 - Lakes
 - National Park (Scientific)
 - National Park
 - National Park (CYPAL)
 - Conservation Park
 - Resources Reserve
 - Forest Reserve
 - State Forest
 - Timber Reserve
 - Nature Refuges
 - Coordinated Conservation Areas
 - Major rivers/creeks
 - Queensland
 - Selected Lot and Plan
 - 1 kilometre buffer



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Table 2. Animals recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
1371	Aves	Acanthizidae	<i>Smicromis brevirostris</i>	weebill	C		0	1	5/2/2012
1654	Aves	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird	C		0	1	5/2/2012
1656	Aves	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird	C		0	1	5/2/2012
1644	Aves	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie	C		0	1	5/2/2012
1645	Aves	Artamidae	<i>Strepera graculina</i>	piebald currawong	C		0	1	5/2/2012
1636	Aves	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	C		0	1	5/2/2012
1810	Aves	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove	C		0	1	5/2/2012
1609	Aves	Corvidae	<i>Corvus orru</i>	Torresian crow	C		0	1	5/2/2012
1342	Aves	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch	C		0	1	5/2/2012
1496	Aves	Meliphagidae	<i>Gavicalis virescens</i>	singing honeyeater	C		0	1	5/2/2012
1499	Aves	Meliphagidae	<i>Manorina flavigula</i>	yellow-throated miner	C		0	1	5/2/2012
1493	Aves	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird	C		0	1	5/2/2012
1494	Aves	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird	C		0	1	5/2/2012
1392	Aves	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote	C		0	1	5/2/2012
1318	Aves	Pomatostomidae	<i>Pomatostomus temporalis</i>	grey-crowned babbler	C		0	1	5/2/2012
1136	Aves	Psittaculidae	<i>Platycercus adscitus</i>	pale-headed rosella	C		0	1	5/2/2012
1576	Aves	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail	C		0	1	5/2/2012

Table 3. Plants recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Table 4. Fungi recorded within the area of interest and its one kilometre buffer

Taxon Id	Class	Family	Scientific Name	Common Name	NCA	EPBC	Specimens	Records	Last record
23242	Lecanoromycetes	Lecideaceae	<i>Lecidea</i>				3	3	6/18/2007
24426	Lecanoromycetes	Parmeliaceae	<i>Xanthoparmelia ballingalliana</i>		C		2	2	6/15/2007
22988	Lecanoromycetes	Teloschistaceae	<i>Caloplaca cinnabarina</i>		C		1	1	6/15/2007
24295	Lichinomycetes	Peltulaceae	<i>Peltula placodizans</i>		C		1	1	6/15/2007

Table 5. Other species recorded within the area of interest and its one kilometre buffer

No species found within the area of interest and its one kilometre buffer.

Species table headings and codes

Taxon Id: Unique identifier of the taxon from the WildNet database.

NCA: Queensland conservation status of the taxon under the *Nature Conservation Act 1992* (Least Concern (C), Critically Endangered (CR), Endangered (E), Extinct (EX), Near Threatened (NT), Extinct in the Wild (PE), Special Least Concern (SL), and Vulnerable (V)).

EPBC: Australian conservation status of the taxon under the *Environment Protection and Biodiversity Conservation Act 1999* (Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Vulnerable (V), and Extinct in the Wild (XW)).

Specimens: The number of specimen-backed records of the taxon.

Records: The total number of records of the taxon.

Last record: Date of most recent record of the taxon.

Links and Support

Other sites that deliver species information from the [WildNet database](#) include:

- [Species profile search](#) - access species information approved for publication including species names, statuses, notes, images, distribution maps and records
- [Species lists](#) - generate species lists for Queensland protected areas, forestry areas, local governments and areas defined using coordinates
- [Biomaps](#) - view biodiversity information, including WildNet records approved for publication, and generate reports
- [Queensland Globe](#) - view spatial information, including WildNet records approved for publication
- [Qld wildlife data API](#) - access WildNet species information approved for publication such as notes, images and records etc.
- [Wetland Maps](#) - view species records, survey locations etc. approved for publication
- [Wetland Summary](#) - view wildlife statistics, species lists for a range of area types, and access WildNet species profiles
- [WildNet wildlife records - published - Queensland](#) - spatial layer of WildNet records approved for publication generated weekly
- [Generalised distribution and densities of Queensland wildlife](#) - Queensland species distributions and densities generalised to a 10 km grid resolution
- [Conservation status of Queensland wildlife](#) - access current lists of priority species for Queensland including nomenclature and status information
- [Queensland Confidential Species](#) - the list of species flagged as confidential in the WildNet database.

Please direct queries about this report to the WildNet Team WildNet@des.qld.gov.au.

Other useful sites for accessing Queensland biodiversity data include:

- [Useful wildlife resources](#)
- [Queensland Government Data](#)
- [Atlas of Living Australia \(ALA\)](#)
- [Online Zoological Collections of Australian Museums \(OZCAM\)](#)
- [Australia's Virtual Herbarium \(AVH\)](#)
- [Protected Matters Search Tool](#)

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APPENDIX D RAW DATA SHEETS

BIOCONDITION SITE ASSESSMENT DATASHEET



OFFICE USE ONLY

Entered: _____
Checked: _____
Corrected: _____

Site ID: B4 081223

DATE: 05/12/23

BioCon survey number: 4

OBSERVERS: R & JS

Queensland Government

SITE INFORMATION

General habitat survey number: 4

LOCATION: (GPS reference) Bioregion: BB

Datum: ☐ AGD84 ☐ GDA94 (WGS84) OTHER: _____ Location derivation: _____

Road: zone: _____ easting: _____ northing: _____ Plot Centre Direction: _____ m at _____ degrees

Plot Origin: zone: _____ easting: _____ northing: _____ Accuracy: _____

Plot Centre zone: _____ easting: _____ northing: _____ Accuracy: _____

Plot bearing: _____ Plot alignment description: _____

Locality description (include tenure and reserve number): _____

REGIONAL ECOSYSTEM AND TREE HEIGHTS:

Habitat Description open woodland poplar box
gassy woodland

Regional Ecosystem: 11-3-2 Tree Canopy (EDL*) height: 22 Tree subcanopy and/or emergent ht: S: 10 E: 24

SITE PHOTOS:

Plot centre: - Refer Folder

(Photo Numbers) North South East West

Landscape photo(s): X1 Spot photo(s): X2

50 x 20m area:

(NB: All logs >10cm, >0.5m within 50 x 20m area measured to the plot boundary)

Coarse woody debris:

Length: 6, 6, 10, 4, 10, 2

Site Total: 38m
Per ha Total: _____

100 x 50m area:

(NB: *Ecologically Dominant Layer. Tree defined as single stemmed over 2m. All tree species in the 100 x 50m (not just EDL species)

Total native tree spp richness:

E. polyneea, Aracia sp
long leaf (1) - refer photo

Total: _____

Proportion of dominant canopy (EDL) species with evidence of recruitment:

100 %

50 x 10m area: Native Plant Spp Richness:

(NB: List species if known or count if unknown. Shrub is defined as single stemmed below 2m or multi-stemmed from base or below 20cm)

Total

Shrub spp. richness: Eurothraexylum Australe, Cinerea latifolia
Capparis, asiam (thar) photo (2), Peretostigma pubescens
Cassia breusteri

Grass spp. richness: Heteropogon contortus, Themeda triandra
Arctida sp

Forbs and others spp. richness: Opuntia, Hrisa cactis, SIDA

Non-native plant cover (%): Canchar cilicurus, melius reppins %

BIOCONDITION SITE ASSESSMENT DATASHEET cont....

Five 1 x 1m plots:

*attributes are essential to assess as used in scoring, however assessment of all attributes improves your ability to more accurately visualise proportions of each of the attributes.

Wood: 10

Ground Cover:	1	2	3	4	5	Mean
Native perennial (decreaser) grass cover*	10	15	5	5		
Native other grass (if relevant)*						
Native forbs and other species (non-grass)	5		5			
Native shrubs (<1m in height)						
Non-native grass	25	20	30	40	40	
Non-native forbs and shrubs						
Litter*	45	20	10	35	40	
Rock						
Bare ground	15	15	55	20	20	
Cryptogams						
Total	100%	100%	100%	100%	100%	

100 x 50m area: *from benchmark doc.

Eucalypt large tree DBH*: 44

No. of large eucalypt trees (tally):

1117

Total: 8

Total large trees (ha):

Non-eucalypt large tree DBH*: N/A

No. of large non-eucalypt trees (tally):

Total:

100m transect:

(Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present *If trees are in the same layer and continuous along the transect you can group them)

Tree Canopy Cover:

[illegible]**Shrub Canopy Cover:**

* denote as native or exotic. Only native shrub cover is used in the scoring.

[illegible]

K: 9

GG: 56 DBH

7m High

20cm x 10cm w

B13

BIOCONDITION SITE ASSESSMENT DATASHEET



Queensland Government

OFFICE USE ONLY

 Entered:
 Checked:
 Corrected:
Site ID: B12-061223DATE: 06/12/23BioCon survey number: 13OBSERVERS: TL & JS

SITE INFORMATION

General habitat survey number: 13

LOCATION: (GPS reference) Bioregion: BB

Datum: ☐ AGD84 ☐ GDA94 (WGS84) OTHER: _____ Location derivation: _____

Road: zone: _____ easting: _____ northing: _____ Plot Centre Direction: _____ m at _____ degrees

Plot Origin: zone: _____ easting: _____ northing: _____ Accuracy: _____

Plot Centre zone: _____ easting: _____ northing: _____ Accuracy: _____

Plot bearing: _____ Plot alignment description: _____

Locality description (include tenure and reserve number): Bryalva

REGIONAL ECOSYSTEM AND TREE HEIGHTS:

Habitat Description open Bryalva woodland on sandy loam plainRegional Ecosystem: not mapped Tree Canopy (EDL*) height: 7 Tree subcanopy and/or emergent ht: S: 9.4 E: 9

SITE PHOTOS:

Plot centre:

(Photo Numbers)

North

South

East

West

Landscape photo(s): x1Spot photo(s): x1

50 x 20m area:

(NB: All logs >10cm, >0.5m within 50 x 20m area measured to the plot boundary)

Coarse woody debris:

Length:

6, 1, 3, 2Site Total: 12
Per ha Total:

100 x 50m area:

(NB: *Ecologically Dominant Layer. Tree defined as single stemmed over 2m. All tree species in the 100 x 50m (not just EDL species))

Total native tree spp richness:

Lythrum carolinianum
Acacia harpophylla
Archidendrops hesaltica

Total:

Proportion of dominant canopy (EDL) species with evidence of recruitment:

100 %

50 x 10m area: Native Plant Spp Richness:

(NB: List species if known or count if unknown. Shrub is defined as single stemmed below 2m or multi-stemmed from base or below 20cm)

Total

Shrub spp. richness:

Cassia brewsteri, Hakea, Allocasuarina diversifolia
Capparis lasiantha

Grass spp. richness:

Arctostaphylos

Forbs and others spp. richness:

Sida sp., Fabaceae sp., danis, horsehair

Non-native plant cover (%):

Cenchrus ciliaris, Exotic fern

%

BIOCONDITION SITE ASSESSMENT DATASHEET cont....

Five 1 x 1m plots:	1	2	3	4	5	Mean
Ground Cover:						
Native perennial ('decreaser') grass cover*						
Native other grass (if relevant)*						
Native forbs and other species (non-grass)		5	40	5	75	
Native shrubs (<1m in height)						
Non-native grass	35	30	20	10	25	
Non-native forbs and shrubs	40					
Litter*	5	40	10	20	45	
Rock						
Bare ground	70	25	50	65	15	
Cryptogams						
Total	100%	100%	100%	100%	100%	

100 x 50m area: *from benchmark doc.	No. of large eucalypt trees (tally):	Total large trees (ha):
Eucalypt large tree DBH*:	No. of large non-eucalypt trees (tally):	Total:
Non-eucalypt large tree DBH*:	largest trees 20cm, 18	Total:

[illegible][illegible]

K:-

GG:-

BIOCONDITION SITE ASSESSMENT DATASHEET



Queensland Government

OFFICE USE ONLY

Entered:
Checked:
Corrected:

Site ID: B14 061223

DATE: 06/12/23

BioCon survey number: 14

OBSERVERS: SS & JL

SITE INFORMATION

General habitat survey number:

LOCATION: (GPS reference) Bioregion:
Datum: ☐ AGD84 ☐ GDA94 (WGS84) OTHER: Location derivation:
Road: zone: easting: northing: Plot Centre Direction: m at degrees
Plot Origin: zone: easting: northing: Accuracy:
Plot Centre zone: easting: northing: Accuracy:
Plot bearing: Plot alignment description:
Locality description (include tenure and reserve number): PO

REGIONAL ECOSYSTEM AND TREE HEIGHTS:

Habitat Description kapar box grassy woodlands

Regional Ecosystem: N42 Tree Canopy (EDL*) height: 18 Tree subcanopy and/or emergent ht: S: 10 E:

SITE PHOTOS:

(Photo Numbers) Plot centre: North South East West

Landscape photo(s): Spot photo(s):

50 x 20m area:

(NB: All logs >10cm, >0.5m within 50 x 20m area measured to the plot boundary)

Coarse woody debris:

Length: 5.4, 3.2

Site Total:
Per ha Total:

100 x 50m area:

(NB: *Ecologically Dominant Layer. Tree defined as single stemmed over 2m. All tree species in the 100 x 50m (not just EDL species))

Total native tree spp richness:

E. podamea, C. tessellaris, Melaleuca sp., E. platyphloea, E. persiciens

Total: 5

Proportion of dominant canopy (EDL) species with evidence of recruitment:

80 %

50 x 10m area: Native Plant Spp Richness:

(NB: List species if known or count if unknown. Shrub is defined as single stemmed below 2m or multi-stemmed from base or below 20cm) Total

Shrub spp. richness: V. chalybeata, E. podamea, E. tessellaris, E. persiciens, E. platyphloea, E. podamea, E. tessellaris, E. persiciens, E. platyphloea

Grass spp. richness: Themida

Forbs and others spp. richness: C. crinum sp., S. d. s. l., S. d. s. l., W. m. d. s. l.

Non-native plant cover (%): Red natal, Buffel, Opertuna, Harris %

B14
n. 42

Ground Cover:	1	2	3	4	5	Mean
Native perennial ('decreaser') grass cover*						
Native other grass (if relevant)*						
Native forbs and other species (non-grass)	5		10	7		
Native shrubs (<1m in height)						
Non-native grass	55	45	20	35	60	
Non-native forbs and shrubs						
Litter*	35	35	20	43	33	
Rock						
Bare ground	5	20		15	7	
Cryptograms						
Total	100%	100%	100%	100%	100%	

100 x 50m area: *from benchmark doc. Eucalypt large tree DBH*: 39 Non-eucalypt large tree DBH*: 28	No. of large eucalypt trees (tally): No. of large non-eucalypt trees (tally):	Total large trees (ha):
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[illegible][illegible]

K - 26 nos in quarter

glider - none



APPENDIX E FAUNA SPOTTER CATCHER REPORT

Fauna Spotter Catcher Services - Moranbah North Mine – Anglo American

Goonyella Road, Moranbah

NCA23R159507

31st August 2023



10/156 Boundary Street, West End
QLD 4101
Phone +61 7 4957 5036



31st August 2023
NCA23R159507

Ryan Gassman
Metallurgical Coal Division – Moranbah North Mine
Goonyella Road
Moranbah, QLD 4844

Attention: Ryan Gassman

Subject: Fauna Spotter Catcher Services -
Moranbah North Mine – Anglo American
Goonyella Road, Moranbah

1 INTRODUCTION

Kleinfelder Australia Pty Ltd (Kleinfelder) was commissioned by Anglo Coal Moranbah North Management Pty Ltd to undertake Fauna Spotter Catcher (FSC) services to facilitate vegetation clearing within the Moranbah North Mine Extension Project known as the Teviot Brook area.

Moranbah North Mine is situated 20km north of the township of Moranbah and produces coal through underground mining operations. Vegetation clearing is necessary for surface operations required to facilitate underground mining. FSC services are required under Moranbah North Extension Project Species Management Program - High and Low Risk (SMP). Kleinfelder provided FSC clearing services for three (3) areas during the month of August 2023.

Vegetation clearing and fauna management was completed in accordance with the Nature Conservation Act 1992 (NC Act), the Nature Conservation (Koala) Conservation Plan 2020, and the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Work was carried out under Kleinfelder's Rehabilitation Permit WA0031685. A summary of the work undertaken is provided in Table 1 below.

Table 1 - Summary of Areas Cleared

Pad Name	Permit Number	Reason for Disturbance
TGT23007	4436/4435	Exploration
MGT23609	4867	Exploration
TGE23502	4925	Exploration

The vegetation present onsite is consistent with Regional Ecosystem (RE) Mapping. The most predominant vegetation composed of *Eucalyptus crebra* (Narrow leaved Ironbark) and *Corymbia spp.* (Bloodwood) communities.



2 MNES AND MSES IMPACTED BY CLEARING ACTIVITIES

Table 2 and Table 3 below presents the area in hectares of MNES and MSES impacted on by clearing activities which were supervised by a Kleinfelder FSC/Ecologist in August 2023.

Table 2 – MNES Impacted by clearing activities

Disturbance/PTD	Brigalow TEC	Greater Glider	Koala	Painted Snipe	Squatter Pigeon	Ornamental Snake
4436/4435	0.0369	0.035012	0.035012	0	0.0369	0.0369
4925	0.9025	0	0.393	0	0.9025	0.9025

Table 3 – MSES Impacted by clearing activities

Disturbance/PTD	RE 11.3.25	RE 11.4.9	RE 11.5.3	RE 11.5.9	RE 11.5.9c	RE 11.7.1	RE 11.7.2	RE 11.7.3	RE 11.7.5
4436/4435	0	0	0.0369	0.0369	0	0	0	0	0
4925	0	0	0	0	0	0	0.455334	0.455334	0.10955

3 FAUNA SPOTTER CATCHER SERVICES – AUGUST 2023

A Kleinfelder ecologist provided FSC services for vegetation clearing works for three (3) Permit to Disturb areas during the month of August 2023. The areas of work were sparsely populated woodland and grassland. Two (2) habitat features were identified (refer to Table 4). *Eucalyptus crebra* (Narrow-leaved Ironbark), *Corymbia spp.* (Bloodwood) and *Acacia shirleyi* (Lancewood) were the pre-dominant canopy species and ground cover was dominated by *Cenchrus ciliaris* (Buffel Grass) and *Aristida caput-medusae* (Many-headed Wiregrass). One (1) fauna species was identified during the clearing process (refer to Table 5). The environmental department were notified immediately upon sighting of the Koala (*Phascolarctos cinereus*) and GPS coordinates were provided. No interference with the species occurred to allow for self relocation. Examples of site vegetation, fauna interactions and clearing processes are displayed in Plates 1-4. Figures 1-3 in the Appendix displays a map highlighting habitat features, fauna interactions and tracks throughout each permit boundary.

Table 4 - Habitat Features

Pad Name	Habitat Feature							
	HBT	L	S	N	EB	GG	WP	TM
TGT23007	-	-	-	-	-	-	-	-
MGT23609	-	-	1	-	-	-	-	-
TGE23502	-	-	-	1	-	-	-	-

HBT = Hollow-bearing Tree, L = Log, S= Stag, N = Nest, EB = Exfoliating Bark, GG = Gilgai, WP = Wood Pile, TM = Termite Mound



Table 5 - Fauna Interactions (August)

Species	Status	Quantity	Capture Coordinates	Release Coordinates
Koala <i>Phascolarctos cinereus</i>	E	1	-21.865588 148.020102	No interference- left to self- disperse



Plate 1 - Example of Pre-Clearance Vegetation



Plate 2 - Example of Clearing Process



Plate 3 – *P.cinereus*



Plate 4 – Example of Post Clearing



Sincerely,

Kleinfelder Australia Pty Ltd

Kayla Gee

Ecologist | Fauna Spotter Catcher

KGee@kleinfelder.com

0483 231 260



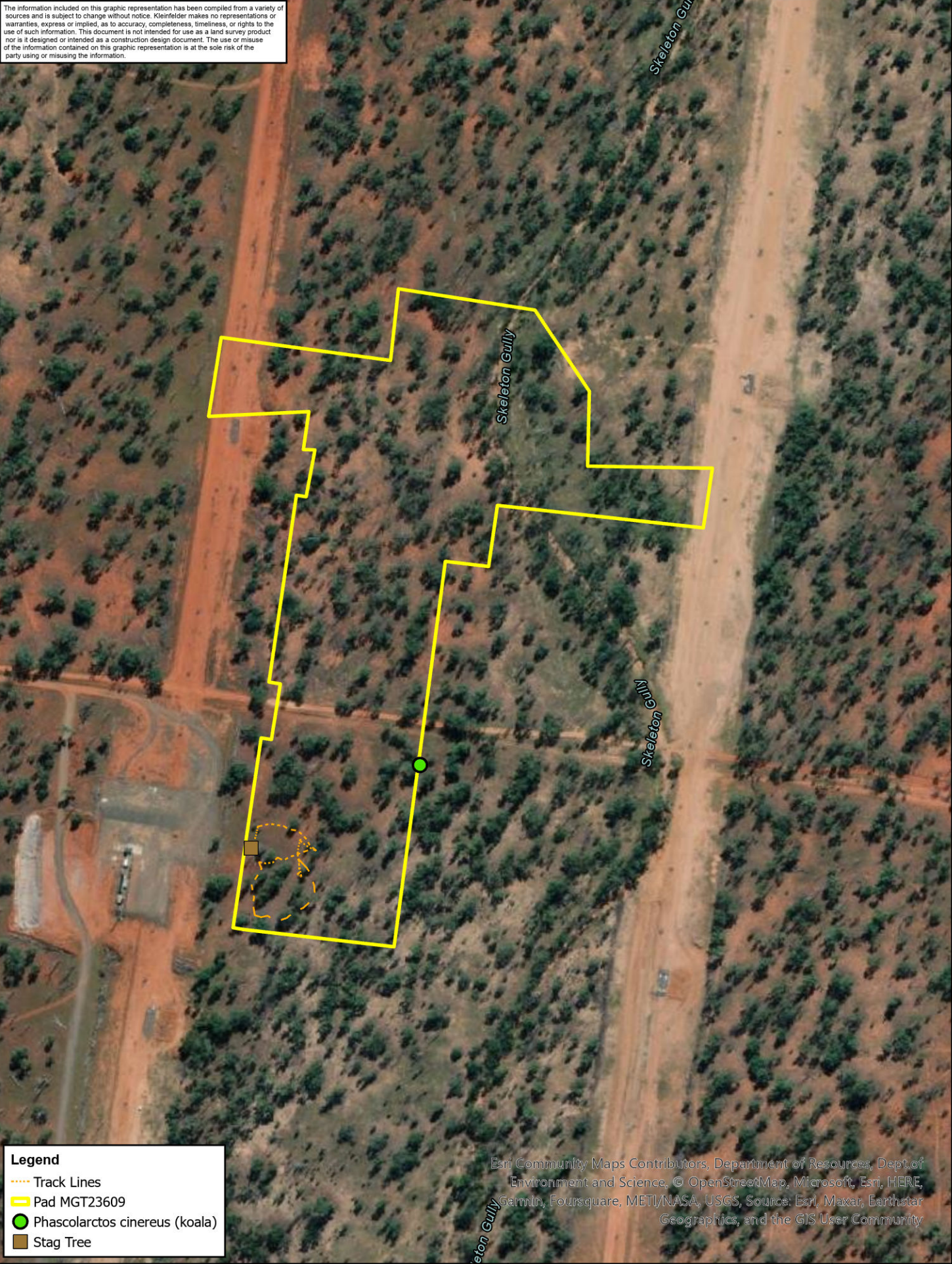
4 APPENDIX

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Legend

- Track Lines
- Pad MGT23609
- Phascolarctos cinereus (koala)
- Stag Tree

0 20 40 80 120 160 Metres

Scale: 1:4,000 @ A4
AGD 1984 AMG Zone 55

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PROJECT REFERENCE:	20234996
DATE DRAWN:	17/10/2023 Version 1
DRAWN BY:	StChan
DATA SOURCE:	ESRI - 2023

**PTD 4867
MGT23609**

Anglo American
Moranbah North Mine
Goonyella Road Moranbah QLD

FIGURE:

2

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Legend

- Track Lines
- ▭ Pad TGE23502
- Bird Nest

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<div>0 5 10 20 30 40 Metres</div> <div>Scale: 1:1,000 @ A4 AGD 1984 AMG Zone 55</div> <div> Bright People. Right Solutions. www.kleinfelder.com</div>	<div>PROJECT REFERENCE: 20234996</div> <div>DATE DRAWN: 17/10/2023 Version 1</div> <div>DRAWN BY: StChan</div> <div>DATA SOURCE: ESRI - 2023</div>	<div>PTD 4925 TGE23502</div>	<div>FIGURE:</div> <div>3</div>
	<div>Anglo American Moranbah North Mine Goonyella Road Moranbah QLD</div>		



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